THREE OF THEM

By the same Author

SOUTH WIND
OLD CALABRIA
FOUNTAINS IN THE SAND
SIREN LAND
LONDON STREET GAMES
THEY WENT
ALONE
TOGETHER
EXPERIMENTS
BIRDS AND BEASTS OF THE GREEK ANTHOLOGY
IN THE BEGINNING

THREE OF THEM

By

NORMAN DOUGLAS

LONDON

CHATTO AND WINDUS

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ONE DAY

TO EDWARD HUTTON

ONE DAY

THE ground is parched ; everything pants with heat. Dust and glare ! It is time to depart. That mood of summer melancholy, that desultory mood, has descended upon Greece, and now my last day in Athens draws to a close. A well-spent day, as befitted the occasion. How to saturate oneself with those old stones—how to squeeze into twelve hours such impressions of the place as one might wish to retain for ever : that was the problem.

Why not scramble in earliest morning, before breakfast, up the stony slopes of the Lykabettus (it happens to lie at the back of my premises) for the sake of the view, and to watch the town at one's feet beginning to throb with life once more ? I say scramble, because I disdained to take the regular path. This new one, the quite new one, is all that can be desired. When I first came here there was another track, also passable. Years before that, however, an ascent of the Lykabettus seems to have been something of an undertaking, if one may judge by the accounts of older travellers. One of them —Buchon, I think—took an hour over the business ; ' enfin,' he says (or words to that

effect), 'après quelques tentatives prudentes, nous arrivâmes.'

These are significant little statements. They remind us what a new country this is; they should prevent us from expecting to find here a state of affairs which only lapse of years can produce. How many realize that there was not one post-office in Greece when the country was taken from the Turks? There are now more than eight hundred. Quinet (1830) tells us that not a single two-wheeled vehicle existed in the whole of Greece; Wordsworth, writing about the same time, says that in Athens there is only one church in which service is performed. Those older tourists—yes; they throw interesting sidelights upon the Greece of yesterday. And they themselves—what a lovable generation, and how wide-awake!

So I mused up there while day grew warmer, glancing at the faded pink flowers that encrust the rock, whose life I have watched from birth to death, when a small pebble dropped at my feet from the rock behind. Another followed; then a third. I looked up, and saw two children peering down upon me. Now what were they doing here at this hour? Out for a matutinal spree, no doubt. Presently they volunteer the information that they are on their way to school (rather a roundabout route) and drop another

pebble, quite a large one, which alights on my hat. A good shot, this time. It stands to reason that only a fool would think of reproving them. Every sign of naughtiness on the part of Greek children should be encouraged. They are so well-behaved, as a rule ; they must be the joy of their parents and teachers. None but the most abandoned of them know the uses of such things as catapults or cigarettes. If you are staying in the country and care for their society they will take you for walks singly, or in couples, or by the dozen, and ask sensible questions and impart useful and even edifying information—information of which I should not understand a single word nowadays, my knowledge of their language having faded away completely.

Sad to think how much they learn ! For they are taught a great deal too much ; Greeks are quite clever enough without going to school at all. Is it reasonable that a small boy should lament the gradual disappearance of the dative case ? Of course he was only echoing for my edification what he had learnt from his teacher ; even so, it struck me as a queer subject of conversation. I tried to cheer him up by saying that the Germans were losing their genitive, but he was inconsolable ; the loss of this absurd dative struck him as a national calamity, and

matters were not improved when I added that no language was fit for its job till it had lost every one of its cases, and all its accents as well. . . .

A glistering day was beginning and my two little friends had meanwhile evaporated ; they were not of the confiding variety, and were now doubtless engaged in learning something about Agesilaos or the petrified infinitive. I had no company save that raven-pair which, later on, retires to a quarry region at the back of the hill.

The town below has changed in the interval since my first visit. Then it had a compact appearance ; now it is all unkempt with young suburbs. Some fresh marble buildings seem also to have sprung up, erected, maybe, by the munificence of rich Greek merchants. There cannot be many places of this size where such a number of public edifices of one kind or another have been raised by private gift. One should really make a list of them. . . . I looked further afield, over sea and mountain. There is a simplicity of line in the landscape hereabouts, and a refinement in those tones of mauve and russet; old Lear had as true an insight into its essentials as those who followed him. He caught the spirit. And my eye strove to pierce the distances ; I rested in imagination on many hill-tops where I may never rest again. They have

a charm of their own and one which those of inland countries cannot offer you—the sense, the ever-present sense, of the companionship of the sea, which invades the land at your feet in serpentine inlets or lake-like patches of turquoise. Here, on these breezy summits, you will also become aware of a faint but persistent chant that throbs and trembles all around. This aerial music so peculiar to the country : what can it be ? It is the tinkling of distant flocks of sheep and goats that browse, unseen, among the slopes.

And the glens are not like ours ; they are more luminous, more endearing. That may be because they come as a surprise. All these hills are seamed by narrow valleys, and little one suspects what beauties may be hidden within their barren-looking declivities. You approach a range and begin to follow what appears to be an opening—a dry and desolate vale. Everything is bleak, stony ; not a thread of water to be seen ; the liquid has retired underground at some higher point in the valley. In proportion as you move upwards the dell contracts ; it may even develop a cheerful knack of transforming itself into a gorge. Soon the slopes on either side begin to clothe themselves with pines that send out an intoxicating perfume in the sunshine ; underfoot, meanwhile,

the soil has grown humid, and now you find yourself accompanied by a lukewarm streamlet amid a tangle of oleanders and other shrubs. I have never met a fellow-creature in these odorous paradises. There is no sound save the voices of frog and nightingale, that contrive a luscious blend of wild melody.

At the outlet of such a glen in the Geranean mountains lies that curious solfatara of Susaki. It is unique in continental Greece, and deserves to be called *curious* because there is no notice of it among ancient writers, who could not have failed to record so strange a phenomenon. It is therefore of recent formation, and I cannot say when it was first observed. The rock is not volcanic ; nothing of that kind is found nearer than Methana, whose last eruption occurred, I believe, in the third century B.C., and where the ' burnt ' village of Kaimeni may preserve some memory of fiery forces (that word may also mean sterile, or miserable).

In other respects Susaki can hardly be called curious. There are the usual *fumeroli*—the ground is riddled with them ; two main vents or spiracula exhale a gas which seems to have effects similar to that of the famous Dog's Grotto, for a couple of goats that may have crept in for shelter, or deluded by the pleasant warmth, were lying dead at the bottom of one

of them : an enviable euthanasia ! My companion spoke to me of a now vanished village near this site, a village of ten houses ; the local name of the solfatara is simply Theiafi (sulphur), and this is what you must ask for, if you wish to see the place. During the late war they tried to exploit its mineral resources—with indifferent results, I should say ; there can hardly have been time for any large deposit to form itself.

Then the sight of those imposing public edifices down below recalled to my mind another dell, as fair as any of them. It lies in the Marathon region, and was sacred ground in the days when I had a cult for Herodes Atticus, who owned all that land which, now so forlorn and fever-stricken, must then have been in a high state of cultivation. Here he lived, and here he died. An attractive figure ! My respect for him survives ; he was a dilettante in the good sense of the word and a fine representative of his age. It is not everybody on whom the title of ' Public Benefactor ' is officially conferred during his lifetime. He scattered useful and ornamental buildings over Greece even as his master, Hadrian, scattered them over the world. And a modern type ! His were strivings of the present hour—the veneration for antiquity, the restoring of ancient works of art, the hiving of inscriptions ; he had a love of

natural beauty together with streaks of mysticism and restlessness—all traits of to-day; more modern than anything was his passion for the ephebes, his enthusiasm for physical training, his nationalism.

The fact is, we know far too little about this period. If only that autobiography of Hadrian's were still extant! The writings of Herodes have likewise perished; no great loss, I daresay, from a literary point of view, yet what a mine of information as social documents! For the Hellenism of these men was not skin-deep; it was no affectation but a peremptory impulse of the heart like our own Gothic or romantic revival; it has left its mark. His cult of Pollux, freedman or possible son, was modelled upon Hadrian's for Antinous; after the death of this friend he insisted that everybody should regard him as still living. How closely this corresponds to certain spiritualistic yearnings of to-day! In memory of his wife, whom he seems to have cherished with almost ostentatious affection, he sprinkled monuments in the most improbable districts.

Few things would please me better than to spend a few Attic Nights in that country-house among the choice circle of intimates of whom we have some record. The atmosphere of the place would perhaps strike one as musty, or at

least self-conscious and artificial ; one suspects there was not much practical joking going on—no talk of dogs and horses, as in Xenophon's villa ; a spirit of wistfulness had begun to brood over the world. But these friends were not yet querulous and sick at heart, as their representatives in the succeeding age grew to be. Nor were they vulgarians like the Romans. They were gentlemen ; and Herodes, whatever his little failings may have been, certainly made good use of his wealth, which is more than can be said of all millionaires.

CRAWLED reluctantly after lunch, in terrific heat, from my pleasant restaurant up to the monument of Philopappos. It was about two o'clock when I reached the place ; the hillock was utterly deserted. And what a glare from those white rocks . . .

An insane expedition, no doubt ; it had to be done. This marble structure is memorable in my annals, and it was plainly my duty to revisit a spot where, day after day, I used to sit in the golden light of evening, enjoying the marvellous view towards the Acropolis and, incidentally, trying to decide whether I had done right or wrong in escaping to Greece from a serious entanglement at home—an entanglement which, begun as a joke one Sunday afternoon, had rapidly developed into something different. Right, I generally concluded ; though there were moments, and long hours, tinged with a bitter-sweet regret. She was so pretty, so different from the society girls one ran after ! She talked so endearingly ! Cora was her name, and she worked in a milliner's shop at Richmond.

One was younger, in those days. And after all, what says Pausanias, that very sober person?

'To man, and to man alone, dearer it is than life itself to love and to be loved.'

Thrice a week we met at the corner of Ellerker Gardens in the evening and wandered up to the park, there to sit at the foot of a venerable oak on a certain bench, always the same (unless it happened to be occupied), whereon we duly engraved our initials. We remained together till 9.30 p.m.—she had to be home at ten sharp—and God alone knows all the nonsense we used to utter during those final moments. This was in the wonderful February and March of 1892, when the weather was like June, and it was on that bench that I learnt something of the mysteries of stock-taking and how many shades of mauve are known to the trade, and that she began to learn about other matters which I was anxious to teach her. For I pushed the affair with youthful ardour, recklessly, till the seventh of March, when, just after breakfast, my Guardian Angel suddenly presented himself. The poor old thing—he looked quite worried. He began :

'I hate making a nuisance of myself. I really do.'

'Not at all, not at all. Is there anything I can do for you ? '

'There is. If you knew what a fool you

looked on that bench last night—if you only knew ! I was ashamed of you.'

'Really ? Then you should have looked the other way. That is what decent people do.'

'This Cora business is making me quite miserable. It must end.'

'Why, it has only just begun ! '

'Let me suggest a change of climate. What about Greece? The P. & O. *Rome* happens to be leaving Tilbury to-morrow ; there are plenty of charming girls on board——'

'None like Cora.'

'—and you will find an Austrian Lloyd waiting for you at Brindisi. A sea-voyage is what you want. Go to Greece, and make me happy. Try not to think of Cora any more. Think about the great Epaminondas for a change. Epaminondas : what a wonderful figure . . .'

'To Hell with Epaminondas ! '

'You are making me miserable again. Where did you learn to talk like that ? '

'At school.'

'I should never have believed it. Now do leave Cora alone. If you stay in England another week, you will get into serious trouble. And I shall not pull you out like last time.'

'As bad as that ? '

'No harm in writing to her, and sending her a little present. That would be quite the

proper thing to do. But never go near Richmond again.'

'Not even to say good-bye?'

'Please don't argue. I am not feeling up to it. Just take my advice, there 's a dear boy, and don't think it too interfering of me. A man owes something to his Guardian Angel, you know. Good morning.'

'But——'

He was gone.

It cost a struggle, a grim struggle; but I took his advice and wish I had done so on one or two later occasions.

So it comes about that an incongruous pair, old Philopappos and Cora of Richmond, are for ever tangled together in my memory. Things have changed in the long interval. Impossible to recapture the sentimental mood of those days. It has evaporated, together with much else; scorched away by the passage of years. No image of Cora floated before my eyes this afternoon, weaving itself into all they might rest upon—stony foreground and Acropolis, Hill of the Nymphs, the Saronic Gulf out yonder. I could only wish her joy and picture vaguely what she looks like nowadays, transformed into an ample matron, proprietress of some high-class millinery establishment, and more profoundly versed than ever in the mysteries of

stock-taking. *Tout passe, tout lasse.* For the rest, the very landscape hereabouts is not what it used to be. A dell at my feet, then bleak and bare, is now encrusted with paltry dwellings. Other externals remain unchanged. . . .

There stands the Acropolis Museum ; I shall leave it with particular regret. An intimate flavour exhales from those few rooms where the spirit is not driven hither and thither, as in other such places, nor even tempted to wander, but forced to concentrate itself upon a single *genius loci.* A pleasant evening to one's days it might be, pottering about here as Curator. I see myself in that rôle, letting the years glide by, oblivious of politics and everything on earth save these relics and the life they commemorate, greeting them as old friends morning after morning, making room for a newcomer now and then, and waxing garrulous with scholarly visitors over some detail of costume or hair-dressing. The same peculiar aroma struck me lately at the distant Museon Arlaten ; here too your fancy cannot stray ; you are riveted to Provence.

It was my good fortune to be accompanied in this and other public institutions by a gentleman whom I encountered searching disconsolately for some Ministry in the Square of Lamentations—the Place de la Concorde, so nicknamed

because frequented by candidates for office who have lost their jobs, or failed to get them. He was a self-made man, a Scandinavian, and had something to do with shipping ; he was well nourished but badly instructed—rich, but forlorn. For the first time in his life, he said, he was giving himself a little holiday in the Mediterranean, and he may have been making up for lost time in the matter of general education. At once I took a fancy to him ; he made such stimulating remarks. In this Acropolis Museum, for instance, after passing through a room or two, he observed :

'Now I know where the Greek sculptors got their ideas from.'

'Where ? '

'Why, haven't you ever been to Rome ? You can see the same things there, only better.'

At the big museum is the torso of an ephebe (not the celebrated one) propped up in a corner; it was fished out of the sea near Antikythera, I believe, and has been woefully treated by that element—an all but formless object, whose fair human outlines are now barely discernible under a mantle of obscene molluscous growths ; it makes one shudder. This pathetic relic gave him food for reflection. He said at last :

'Odd ; very odd. Now what on earth in-

duced those people to keep it in the sea-water for so long ? '

These are the companions one requires when visiting museums ; these, or none. What a relief, by the way, not to be pestered here as in Italy by official custodians with their chatter and explanations. . . .

Underneath this Acropolis Museum, in the hillside, you perceive a cleft, a rock-chapel ; one of many hundreds which lie scattered about the country. They are not peculiar to Christianity. The Orthodox Church is only carrying on the tradition of other times ; paganism was fond of sacred caves, though the present type of officiant, that unkempt *homo spelæus*, contrasts perhaps unfavourably with his predecessor, whom one imagines to have looked cleaner. Perhaps not. For dirt and piety go hand in hand, and superstitious practices engender identical effects all the world over, appealing, as they do, to identical instincts in man. Yet nowhere does the gloomy nature of Christianity thrust itself more intrusively upon the attention than within sight of those temples of the past ; all the more so, since this hatred of daylight drove them to construct their churches as like to caverns as possible, in point of exiguity and duskiness.

What are these ancient Byzantine churches ?

They are artificial grottos, built to imitate natural caves. A modern French writer calls them 'pigeonniers sacrés,' but this witticism gives no clue to their real origin. Down there, in that insanitary twilight, you may watch the osculations and other anti-hygienic rites of an earthward-crawling cult whose votaries, sensible folk, seem at such moments to surrender every ounce of self-respect; here you may realize the full significance of the word 's'abêtir.' One wonders by what means these graceless and unreasonable practices contrived to impose themselves upon mankind. *Painful to witness*, says Kinglake.

In the days of Wheler there were two hundred of these 'churches,' these little grottos of masonry, in Athens alone. Most of them would be standing to this day but for the recent revival of interest in Byzantine studies and the craze for Byzantine painting and architecture. They are so portable! It is that cursed zeal of collectors which has led to a diminution in their numbers all over Greece. They have been smuggled out of the country. The cabinet of mediæval antiquities belonging to Baron de M—— in Paris, for example, contains no less than six specimens, four of them being in a perfect state of preservation. Others are scattered about private and public collections in different

parts of Europe ; twenty-two, if not more, have been exported to America. The municipal authorities at last woke up to the scandal, and that is why the more important of these relics are now protected by iron railings—to prevent them from being carried off as keepsakes by unscrupulous tourists.

Even so, the 'old cathedral' itself had a narrow escape a few years ago when, profiting by the political disturbances that agitated the country, an English peer and ardent connoisseur of antiquities (the reader will guess who is meant) had made preparations for getting the little thing on board his yacht at the Piraeus, and was only foiled at the last moment by an accident (he fractured his thigh, and had to lie in hospital for several weeks, during which the disturbances quieted down). The Kaesariani structure is well guarded, but that microscopic one of Asteri higher up the Hymettus, at the head of a pine-covered glen, will be the next to vanish, unless they put a fence round it. Mistra, they tell me, has been robbed of half its churches within the last twenty years. I doubt whether I should recognize the place again.

One might imagine that people who displayed such indifference towards the dispersal of their fine old churches would have no strong feelings, one way or the other, in regard to the

Bible. This is not the case. Some time ago there appeared in a certain daily paper a serial, a historical novelette, by an anonymous writer. It ran through several numbers, and such was its strangeness, its beauty, that the circulation of the journal was soon trebled. Endless discussions ensued in polite society, and even among the commoner sort, as to who the talented author of this romance might be. It became the talk of the town. A local man? That was hardly probable, since the tale had an altogether outlandish flavour. No; he proved in the end to be no local man; no Greek at all. The story was nothing but a translation into the vernacular of the Book of Joshua. It had been made by a patriotic and enlightened citizen, whose fateful project it was to familiarize his countrymen in this easy fashion, by periodical instalments in a newspaper, with the whole of the Bible—a closed book to most of them—in order that they might judge for themselves whether the Word of God was as tiresome to read and as detrimental to morality as they had been taught to believe. He afterwards confessed that he chose the daily press in order to reach the greatest number of readers; and what more seductive *début* for his enterprise could he have found than the stirring tale of Joshua?

Plausible arguments ; little did he anticipate the result of his labours, once the ' talented author ' of the serial had been revealed. Athens, they say, was in an uproar at this atheistical innovation ; bands of orthodox believers marched through the town sacking, first of all, the offices of the heretical newspaper, then banks and other shops ; later but not wholly reliable accounts speak of a fixed battle in the streets which led to ' a good deal of unnecessary bloodshed ' and was only terminated at last by a cavalry charge which accounted for 217 more victims ; the President of the Council, who was supposed, perhaps wrongly, to have given his sanction to the blasphemous attempt at modernism, barely escaped with his life, being smuggled at midnight into the upper regions of the Lysicrates monument, where he lived for four days in pitch darkness on some uncooked rice and a bottle of gin. And all because a cultured gentleman tried to make the Bible intelligible to his compatriots. Well, well ! One looks at the Parthenon, and marvels what such a cult is doing here. And then one remembers what certain enthusiasts would have us forget : that the old Greeks, though humaner than ourselves in some respects, were in others as ferocious a pack of fanatics as ever breathed. And soon enough one realizes something else :

that the whole business is not worth bothering about. . . .

Then, glancing across the valley, I became aware that other things had changed since Cora days. Large tracts hereabouts have been planted with pines ; the Acropolis is half surrounded by them. Sooner or later much of this barren land will be shady, and if it be true that the work was carried out by Bulgarian prisoners—why, then the Great War was not fought altogether in vain. Yet I wish they had selected some other tree, not for aesthetic reasons but because this variety of pine is so resinous, so inflammable, that during the hot months it could be set on fire by any trivial accident. If a strong breeze were blowing at the time, where would it end ?

Such a fire, under such conditions, could not easily be circumscribed, and to extinguish it would be out of the question. One pictures the Parthenon blackened by greasy fumes, while the conflagration, spreading by means of flying sparks, might carry the mischief into Ardettos, Zappeion and Palace Gardens and — who knows ?—as far as the Lykabettos itself, which has also been planted with this pine at the instigation of Queen Sophia, who suffered from the treelessness of the country and did her best to remedy it. Whether such disasters be acci-

dental or not, the result is the same, and Greece has had her full share of them. Not all of us are old enough to remember the great blaze on the Hymettus in 1556 ; there was a recent one, of alarming dimensions, on Pentelikon. Forest fires are deplorable in a sterile land. I once walked through a scorched region of this kind. Nobody could tell how the calamity started ; the shepherds, as usual, got the blame and perhaps rightly ; they covet these 'useless' woodlands as grazing-grounds. There was blackness underfoot and overhead, a pungent odour, and a deathly stillness owing to the absence of all bird and insect life. Thirty years, I calculated, would be required to bring that forest back into its old state of prosperity, if the shepherds would allow it to be done. In other respects the damage might be called slight. Now what would happen if these plantations about Athens caught fire, enclosing half of it, and the best half, in a girdle of flame ?

Which reminds me that Athens since my last visit has grown into a city of pepper-trees ; the broader streets are lined with them. Better than nothing. But they are aliens to Greece, monotonous in hue and structure, insignificant as to size, and of short life. Soon enough all of them will be dead. New ones must be planted, and meanwhile the citizens will have

to go without shade for ten years or so. It might have been well to follow the example of some towns on the French Riviera where, alternating with peppers, they have planted carobs or ilexes, slow-growing but worthier trees, which take the place of these ephemeral exotics —step into their shoes, so to speak—in course of time, and give yet more shade and a more dignified character to the roadways.

And why neglect those umbrageous white poplars whose timber in olden days was used for sacrificial offerings? There are noble specimens here and there, but not nearly enough. The plane-tree, again—one should like to see more of these venerated growths, if only for the sake of their lore; of their associations with Plato and those newer memories of happy hours which every traveller has spent in their shade near some wayside fountain. Kimon is said to have surrounded the Athenian market-place with planes; if that be true, it more than atones for anything which may have happened to his sister. The plane was perhaps less common in earlier ages of Greece; Homer, I think, mentions it only once, and his fountain-trees were poplars and alders; Hehn calls it an 'Iranian' tree. Still, it was known and revered. There was one which Menelaus planted in Arcadia, and the plane of Agamemnon at

Delphi, and that of Hippocrates at Cos—an island which I should have visited for its Theocritean traditions but for the fact that my shoemaker's name happened to be George (he was repairing my only comfortable pair of walking boots ; just before the boat was due to leave I called for them at his shop and found it closed. It was the festival of his saint).

The plane might require a little attention at first. What attention can do is proved by the state of the Royal Gardens. True, not every garden is like that of the Hesperides with a dragon—Queen Amalia, in this case—to watch over it ; could she now revisit the place, she would surely be satisfied with her work, despite certain unnecessary paths and worse than unnecessary monuments. It is the same everywhere ! Contractors want jobs and municipal authorities are corrupt and imbecile all the world over. That is why public resorts like this and the Villa Borghese in Rome and the Green Park in London and dozens of others are being vulgarized day by day, and bereft of half their charm.

And then I recaptured, lurking among the stones of the theatre of Bacchus over there, another little memory of the Cora period. I sat here one morning reading Gregorovius' book on Athens—studious days ! but that work has

not yet lost its charm for me—when, looking up, I beheld something I should never have expected to behold : my grey-bearded Greek professor whom I had left in a German gymnasium a few years earlier. Was the old wretch going to haunt me all my life ? For we never hit it off. I had frequent cause to complain of his unhealthy infatuation for Greek particles and other trivialities of that kind, as if one's whole existence depended upon a knowledge of such things. He would also descant on ancient art and architecture, on the history of the drama and God knows what ; sagely, maybe ; to deaf ears, for the most part. Now what was he doing here, at this spring season, when he ought to have been torturing a fresh generation of *Primaner* ? I concluded that he had retired from his duties as schoolmaster and was at last realizing the dream of his life—a visit to this country. There he was, anyhow, pacing about thoughtfully and all alone. I did not make myself known to him. I recalled a remark of his when, drawing me aside one day, he said in a tone of deepest conviction :

' Mit Ihrer schenialen Liederlichkeit, Döggls, *kommt man nicht weiter. . . .*'

WHAT more exquisitely appropriate than to stroll towards evening for a farewell visit to the hillock of Colonos? On that sacred dustheap I reposed while the sun went down, tired out, and no wonder, with walking all day in this heat. The insane excursion to Philopappos! Dinner, I thought, will put that to rights.

Colonos is no longer the secluded spot it was when I came here for the first time on the morning of 29th April 1892. Thirty-six years! A deal of water has flowed down the Kephisus since those days, and even down the Ilissus (I noted in my journal that the fountain of Kallirrhoe, now dry, was aloud with the croaking of frogs). It has grown paltry and ignoble. A disordered crowd of humble dwellings has crept close to the site, and threatens to roll over it from every side.

And yet there is a spell, a tawdry kind of spell, in these extramural regions; the outskirts of a town have more character than its centre. Nobody who wishes to study the spirit of London or Paris would take up his stand in Piccadilly Circus or the Place de l'Opéra; he would make for the outskirts. Athens is well supplied with such things—peculiarly ragged at

the edges ; and these suburbs have a note of their own, a haphazard note. They look disorderly, as if they had sprung up in the night like mushrooms. Somebody, presumably, is responsible for the planning of them with a view to the future appearance of the city ; or is their seeming confusion another instance of the democratic spirit, of the still-surviving Greek love of liberty ? Be that as it may, you will notice, as you walk along the dusty roadways and glance into these interiors, that the inhabitants also have a character of their own : sobriety. Here is no brawling as in Italy, no squalor in the English sense of the word, none of the semi-bestiality of the Berlin suburbs. Everybody seems to be tranquil, self-respecting ; and vainly one conjectures how all these humble but decent people contrive to live in a non-industrial town like this.

It is to be hoped that they will not spread themselves over the hallowed summit of Colonos itself. The place is sufficiently sordid. Sophocles would be astonished at the present appearance of his birthplace ; perhaps appalled.

Colonos must be redeemed. A spot like this, a national monument, should not be allowed to merge into those mean suburbs. It can easily recover some of its lost charm, and even at this moment there are signs that the City Fathers

have not forgotten their duty. Good intentions on the part of somebody are manifest. The precincts have been surrounded by a barbed-wire fence, a custodian (they say) is appointed, and a number of tiny cypresses have been planted. Colonos is to be converted into a green islet once more. To-day the custodian happened to be invisible, and those particular cypresses were already withered and dead from lack of water. No matter. New ones can take their place, though I shall never live to see them grow. And the wire fence was broken down at two points. No matter. It can be mended.[1]

Water : that is the difficulty. The suburbs of Athens, excepting the Lykabettus quarter, are inadequately supplied with the element, and it is pathetic to see these people in crowds, each waiting to take his turn at filling a bucket or two at the few public fountains there are. I should say there was hardly enough water for human needs ; the blazing summer months must entail real hardships. Greeks are incurable water-maniacs (no wonder, considering the wine they have to drink) ; water-specialists, whenever they get the chance, for they claim to

[1] These few words were written in June 1920. Six years later I revisited the spot in the company of a friend ; we found the state of affairs unchanged. *See* p. 57 of Edward Hutton's *Glimpse of Greece*. (London, Medici Society, 1928.)

detect shades of difference in the qualities of water much as a wine-drinker will discover them in brands of champagne. They seem to drink water for the fun of the thing, and something will have to be done about this deficiency if the population continues to increase at its present rate. Projects are afoot, such as that of tapping the Stymphalus region : may they be realized ! Here, if the authorities hesitate, is another chance for one of those patriotic millionaires to step forward—a man on the lines of Herodes Atticus. He would have made short work of the business ; he liked nothing better than building public aqueducts.

I scrambled within that broken wire fence and there found a handful of children amusing themselves. They were playing at *pentelizein*, five-stones, a venerable sport which admits of many varieties and leads by gradations up to the nobler one of knucklebones or astragalism or dice. Knucklebones, popular with the youth of classic days, is dying out in Greece—so says Ulrichs, and he must be right ; I never witnessed it. Ganymede on Olympus was allowed to play dice with Eros, to console him for the loss of his mortal companions ; there is also a famous fresco which depicts some goddesses playing at this game. An old author tells us that it is a sport for women ; even so five-stones in London

is played mostly by little girls. The children on Colonos happened to be boys. Well, persons of that age are not particular to what sex they belong, provided they can have some fun.

The immutability of simple things! The ancients knew this game; I will wager that the little Sophocles played it on this very hillock. Ages passed; Romans, Franks, Turks—they came and went; the hills themselves have put on other faces. Many things have grown old. *Pentelizein* remains young.

Even to-day Sophocles would have small difficulty in recognizing the landmarks, although that haze of factory-smoke over the Piraeus region might well puzzle him. The sun, while I sat there, was declining behind the Sacred Way which he often trod; it transmuted the Acropolis to gold and the ridge at its back to the tint intermediate between pale heliotrope and paler amethyst, a fugitive glory which he never saw, the mountain being doubtless timbered in his day. Then it sank behind that old track, calling up memories of my last visit to Eleusis. It was on my way home, on foot, from Megara to Athens—quite a respectable walk in warm weather.

I did not visit the excavations that time, but spent the hours more profitably drinking with an Albanian whom I had met on the road; one

of those who till the land in these unhealthy parts. It is lucky that Albanians exist hereabouts for agricultural operations, otherwise the soil would be even less cultivated than it is, since Greeks are not fond of the glebe ; they have all inherited something from Odysseus who ' loved not the labour of tillage.' In that delightful hovel of his I sat through the hot afternoon and explored once more the famous site—in imagination. What was it, I wondered, that drove men of antiquity towards those underground mysteries of initiation ? It was the anti-hellenic impulse to escape from actualities ; it was fear of a fact, an unpleasant fact : that death is the end of all things. They craved for comfort. So they underwent that rite which, like other such buffooneries, gave them a sense of superiority over their unenlightened, because uninitiated, fellow-creatures ; they went in as gentlemen, and came out as prigs. And why the proceedings in that dark hole were never disclosed is intelligible on another hypothesis : that the Mysteries themselves were some sublime farce which these good people were ashamed of themselves for having witnessed, and therefore ashamed to reveal. Hence that conspiracy of silence (ask any intelligent Mason).

In the pages of Frederika Bremer you may find a cheery account of the first excavations

on this site. It was at Eleusis that she met the young Lenormant who was destined to become more famous than his father. Unfortunately she tells us less about him than about his mother. Dear Frederika ! Her books read like a perennial tea-party.

I was sorry to part from my friendly Albanian, and it must have been after midnight when I reached the watershed between the Kephisus valley and the bay of Eleusis. A full moon was shining, and there, near Daphni, I had a wondrous view of Athens asleep. The town lights had been extinguished ; it lay outstretched against the silvery-grey background of Hymettus all blanched and calm, like—like a child in its nightshirt. What more hallowed, what more charming ?

S A T after dinner out of doors, till far into the night, at one of my favourite taverns ; likely enough, I shall never sit there again. It is an unpretentious and unpopular little place. So much the better ! You know the Ardettos road which ends at the chapel of Saint Photinus ? There is my tavern. It lies at a slight elevation, an elevation which is just what it should be, and often have I wondered why so few better-class houses have been built along this way ; how much more attractive, for instance, than that tiresome Kephisia boulevard ! If I had to live at Athens I should certainly choose this region, which has a character of its own ; in the evening, especially, one feels quite remote from those evidences of modernity that distract one's thoughts, and strangely close to the life of the ancient town. There is nothing at your back save the hill ; before you stand the temple of Jupiter and the Acropolis in a beautiful grouping and in more than their usual grandeur, because you see them neither from below nor from near at hand, but from a proper distance and proper height. At this tavern, moreover, one can be sure of being alone, deliciously alone ; never an

acquaintance will you encounter here after sunset.

Other evenings have been spent in a certain central nook where, amid the din of tramcars, you will find food and company to your liking. Such mundane surroundings do not befit my present farewell mood. I must be out of doors, and by myself, and within view of those old monuments ; in other words, I must be content with the yellow *rezzinato* wine. So much the worse ! Is it not strange that these intelligent folk cannot invent anything better? The Scotch, the Scythians, the Sandwich Islanders—they all have their peculiar beverages, more or less palatable, whereas the land of Anacreon and Alcaeus (who happen to have been born on islands where, to this day, the wine is better than on the continent) offers you nothing but *this*. *On s'y fait*, nevertheless ; especially if you know the secret. Shall I reveal the secret? Treat it as you treat English beer : never drink it in sips. Gulp it down. . . .

So far I am only in the middle of my third glass, and that excellent dinner an hour ago guarantees me against any ill effects for ages to come. Besides, this is not the day for boreal excesses, and not the place. And yet, as I sit at this table by the dusty roadside, I seem to see the mighty columns of Jupiter's temple

beckoning to me more familiarly than needful across the dry bed of the Ilissus ; or is it some optical illusion ? The Parthenon, at least, behaves irreproachably. A hot, cloudless night ; the moon will be late in rising. This time tomorrow I shall be at sea—a wanderer once more. Whither bound? I have not yet decided. It matters nothing ; there are pleasant people everywhere.

Vex not thy soul, O Man ! The gods decree
Thou shouldst through many lands a vagrant be.
Vex not thy soul ; content to find, instead,
A hut, an unspent fire, a loaf of bread.

So sang old Leonidas of Tarentum—he of the Greek Anthology. . . .

It is my habit (a good one, I think, but not a common one) never to take more than a single book with me when travelling ; to browse on it, and on it alone. My travel-companion of late has been this Anthology, and a pleasanter one could not be found. It discloses Greece from every point of view—art, philosophy, history, criticism, social life—and in the most appetizing shape conceivable : Greece of old and of later days, in all its aspects. What an extent of ground this collection covers ! And what an abysm of time . . . stretched a little further at both ends, it would take you from the

era of bronze weapons into that of gunpowder. A deposit of the ages containing variegated strata of human thought; or rather, in its present shape, a kind of conglomerate, a conglomerate wherein, amid much that is worthless, you may happen upon fragments of purest ore.

Here we have those eternal wants of mankind—the cry for food and drink and love. Were it not that the germs of falsehood lurk in every apophthegm I should be inclined to say, of the best of these poets, that they felt like children and spoke like men. They were sensitive on the right spot. To talk of the crystalline contour of these verses, their wit, tenderness, and directness of vision—it is true enough. You will go on to discover that they have the *inevitable* ring; that this truth, whatever it be, has now been uttered, once and for ever. The same applies no doubt to some of the best work of later periods. It also has the inevitable ring. But it contains rust, being derived from the thoughts of earlier men. Rust, even rust of gold, is dross. Greek art has the peculiarity that it spoke both rightly and firstly. We read these old lines and realize that nothing in our hearts has changed.

Says one lover to another: 'and if any should hinder that sweet union which will end our pain——'

Is he not right? Do we not all find the cure for love in sweet union? The man who wrote those lines may have yearned for some alliance which was scandalously improper or illegal; he was not greatly concerned, I imagine, with these social issues, not engaged, like many of us, in a pious endeavour to justify his acts towards some man-created ideal of what is right. Why strangle yourself with a rope of your own making? He knew that love is a pain. He knew its remedy, its only remedy. He set it down. And is there not a finality about little utterances like this, though it be but a rhetorical exercise:

To thee, Bacchus, the tippler Xenophon dedicates his empty winecask. Accept it indulgently, for he has nothing else.

I glance at another epigram which tells how Alcon, when his ox was weary with age and no longer fit for the plough, remembered its long services and led it not to the slaughter-house but back into the meadows, there to low with joy and spend the evening of its days amid the cool green grass. This is one of many poems which betray a gentleness of mind such as no longer exists in the Anthology regions.

Little vignettes of daily life. We who pride ourselves on humanitarian impulses, on con-

sideration for others and refinement of taste, have yet something to learn from these ancients. So sensitive were they to delicate shades of feeling that these pages might well be regarded as a textbook of good manners. What are good manners but the outward expression of kindliness? And what is kindliness but common sense? That is why reasonable folk of whatever class or nationality are always kind and well-mannered. That kindliness of which the Anthology is full came naturally to them. It was part of their general health and balance of faculties. They compassed it by well-directed curiosity. They looked outwards and saw themselves surrounded by a host of tangible things, fellow-creatures and beasts and mountains and woodlands and waters; they regulated their behaviour in accordance with these mundane necessities and so attained terrestrial values. Whence, in the older epigrams, that sense of direct contemplation of nature, that eye for detail, that touch of earth—bitter or sweet. Slowly it fades away. Even before the commencement of the Christian era concrete imagery tends to be replaced by abstractions. The process was never arrested. They, the Christians, could not allow these things of earth, dear to pagans, to be of much account. They looked inwards, guiding their conduct no longer

in relation to tangible objects but to an intangible postulate ; and so attained ghostly values. Ghostly is the impression they leave. A kind of spiritual dimness had begun to creep over the world.

Here we find pathetic verses, numbers of them, which deplore the failing of eyesight with age and all the attendant discomfort for those who depended on their eyes for a livelihood. Spectacles were obviously unknown. It seems strange that the ancients, who fashioned glass into so many objects, should never have hit upon this device. There is a passage somewhere in Seneca to the effect that small letters appear larger and clearer when viewed through a vessel filled with water. Salvino degli Armati, a Florentine of the thirteenth century, has been credited with the invention, and up to a short time ago there was a mural tablet erected to him in Florence and describing him as a ' benefactor of the human race,' which he surely was. This inscription has now been removed, for reasons best known to the authorities. A certain friar of Pisa, Alessandro della Spina, is known to have manufactured a pair of spectacles about the year 1286. They had convex lenses, and Petrarca, among others, has left a description of them. Who knows ? A Dutchman, I fancy, has also been accorded the honour, and the

Chinese are sure to put in their usual claim for priority in point of time. . . .

Their doctors were doubtless efficient ; some remarkable cures are recorded. And yet, of course, they poked fun at them. What could be better than this :

> ' Dr. Marcus paid his respects yesterday to a statue of Jupiter, and the god, though he be of stone, is to be buried to-day.'

Glancing through these pages, one might infer that their surgeons were not very skilled as obstetricians. There would seem to be an inordinately high percentage of deaths in child-birth. I think we should be cautious in drawing such deductions, since a death of this kind will have struck the writers as peculiarly galling and worthy of lament. The same with what appears to be the unusual number of persons dying in youth or childhood. There is a pathos in such tragedies which calls for poetic treatment.

Interesting side-lights are thrown upon domestic customs by these sepulchral epigrams even when, as is often the case, they are merely exercises. How singular is this collection of accidental deaths when compared, for instance, with those chronicled in the newspapers of to-day ! A boy drowns while trying to save the coffin of his parents from being swept away by

a flood ; another is crushed under his step-mother's column, which falls upon him while he piously decorates it under the mistaken impression that ' death might have changed her character ' ; a girl, on her wedding-night, is torn to pieces by the watch-dogs ; a certain Sophocles poisoned by Sardinian celery ; a horse-trainer killed by his own mare ; children die from eating peach-kernels, drinking sea-water, from the stings of bees—another is decapitated by the ice of a partially frozen river, which carries off his body, leaving the head for the mother to bury. They commit suicide in good style ; they die of lightning and sunstroke ; they are burnt and frozen to death, smothered under snow or earth, murdered by brigands ; I can discover no death from starvation. And what happened to the Cretan goatherd Astacides who was ' witched away by a nymph of the mountains '? Engulfed, was he, in some cleft or morass ?

Drownings without end ! The most noteworthy is probably that of the old woman Ampelis, who was submerged in a flood of wine that poured from a huge vat whence she was secretly drawing herself a tumblerful. A fair number of woman-tipplers, and tipplers in general, are commemorated in the Anthology. One of these drunkard-victims who, soaked with Bacchus, has died from falling off a path

made slippery by the rain-god, vows that his fate was not just, because 'it was two against one, and gods against a mortal.' They kept their humour in the face of death. 'I often died,' says an actor on his tombstone, 'but never quite after this fashion.'

For the most part they view the inevitable end in a spirit of calm contemplation. May you be happy down there, the survivors seem to say, if indeed any joy comes to the dead. Such is their outlook—cleansing and purging; nor can one peruse the saddest of these epitaphs without realizing how much blither the world then was, how remote from our conception of a *vale of tears*. We read, inscribed on the tomb of a child of nine: 'Alas—with how many joys untasted hast thou perished!' Such men anticipated joys on earth, not after death. Another child says on her tombstone to her mourning parents: 'Cease to grieve; mortals are often unlucky.' Nothing more heartfelt has been written than laments like those for Anticles and Heliodora, but they convey a sense of definite farewell. And not easily shall we find words more poignant—of a late period though they be—than those engraved by his friend on the tomb of the dead Sabinus at Corinth, an astonishing little farewell, a quatrain which Symonds, if I remember rightly, paraphrased into *twelve*

English lines, ruining the whole spirit of the thing, its lapidary pathos. Did he forget that such lines were actually hacked with an iron implement into the marble of a tomb? And do they not ring more true in this version which I extracted with infinite difficulty out of my friend John Mavrogordato?

> THIS LITTLE STONE : GOOD FRIEND : IS SET
> TO OUR GREAT LOVE : I 'LL NOT FORGET :
> AND WITH THE DEAD : IF SO MAY BE :
> THOUGH YOU DRINK LETHE : THINK OF ME.

Symonds, if not the worst, is one of the most conspicuous examples of this watering-down method. There are several of them. I went through some of these English versions of the Anthology during the last month or two, and was not invariably delighted. Too many err on the side of prettiness; one misses that note of compulsion, for even a honeyed singer like Meleager can be translated in too sweet a fashion. These scholars often read well (conscientious work, too, after its kind), but they are apt to give an inadequate sense of the raciness of the original; they dilute that epigraphical flavour which is often so austere as to be harsh. And sometimes it looks as if they toned it down deliberately. Asclepiades has summed up the Praise of Love in four lines which are among the

miracles of human speech. The final two have been rendered by one of our best-known translators of the Anthology as follows :

> Sweetest of all, when two dear lovers cling
> Beneath one bower,
> While for deep gladness both together sing
> Love's praise and power.

This is an outrage. But maybe only those two friends who have really 'lain together under one cloak' and there found occasion, both of them, to speak well of the Goddess of Love—maybe only they can appreciate the pungent realism of Asclepiades ; only such as these can render his verses as they deserve to be rendered. Others might content themselves with translating *animula vagula* and suchlike, which no amount of sweetening can damage, and leave Asclepiades alone. He is too important to be turned into treacle. And it strikes me as not without significance that this volume should be heralded by a commendatory letter from Walter Pater, himself a noble exponent of what might be called the diabetic school. Wonderful how, by some subtle process of alchemy, everything he wrote became straightway charged with a sugary infiltration. There exists in the languages both of Anglo-Saxons and of Teutons some elvish and industrious fer-

ment which tends to produce this saccharine deposit ; their habits of life must also be taken into account ; the mischief has its roots in our Gothic distrust of clean thinking.

I take it that the test of a sound English metrical version is that, retranslated into Greek as accurately as may be compatible with elegance, it should pass muster as a Greek poem. There is no middle course, but only one alternative—to aim not at a rendering but at a transfusion from one poetic mind to another, such as Johnson-Cory achieved with those oft-quoted lines from Callimachus. This is an admirable English poem. Done into Greek, it would give Callimachus the stomach-ache. . . .

Meanwhile that crazy moon has at last appeared. It lights up the columns of the Jupiter temple and the distant Parthenon.

'He who is cursed with an ugly wife sees darkness when the lights are turned on.' Have we this kind of fooling nowadays ?

On the summit of one of those mighty pillars, they say, there lived a hermit in the manner of Simeon Stylites ; so exalted a platform did he require from which to display his humility. I wish he were still there. How amusing to cut off his food-supply, and make him clamber down again. . . . Such thoughts are out of place here. Let me have a last look at the

Parthenon, for soon I may be seeing monuments of another school. It was my fate, during the war, to spend several days at Amiens, where I passed some hours in front of that cathedral, trying to decide whether this stuff was architecture or nightmare. I have not yet made up my mind. But I have made up my mind about the Albert Memorial and suchlike, and should like to hear what the Parthenon builders would say to it. Perhaps something of this kind :

> ' A venerated Queen of Northern Isles reared to the memory of her loving Consort a monument whereat the nations stand aghast. Is this the reward of conjugal virtue ? Ye husbands, be unfaithful. . . .'

Now let me see if I can invent a few more : not in verse, however—God forbid ; not at this hour of the night. I am in the mood for such experiments, and it is not so difficult to render in English the spirit of this old speech. All one has to do is to throw overboard certain modern prejudices of feeling. Over they go !

> ' Ever-alert in his cage, my sallow siskin trills through the noonday hours, mindful of marvels he saw in dewy Sarmatian glades. For nothing escapes his eye. Ah sprightly fowl, could mine enemy see what thou hast seen ! '

I like that smack of the *imprévu*. Another one :

'HE : Now all is ready for the fray. SHE : And if I shirk the contest? HE : Alack, what shall be done to thee, O Child of Caprice? SHE : Take me as I am (*scilicet nudam*).'

The Attic savour, unquestionably. Some more :

'Old Stella, who polished off her thousandth lover not long ago, has just bought a fresh nose. She mislaid her last, and the first one ran away.'

Byzantine period :

'Because she once dreamt of a shipwreck, our prudent Abbess has ever since declined to enter a bath. . . .'

'Fear not, O Mortal, the bark of a certain wrathful Lamb. It is worse than his bite. . . .'

In the manner of Lucilius :

'Out of those teeth of yours, and your sister's tawny mane and your father's growl, and the valour of him who can contemplate such an ugly family without fainting, I could create a presentable lion. . . .'

Of Metrodorus :

'A ship of stout oaken timber, ploughing the broad ocean and laden with corn, arrives from

Alexandria after twelve days' journey. Say, Stranger, how old is the captain ? '

I will now essay an epitaph, or something in the sepulchral vein :

'Wrongly wast thou named, my friend ; wrongly they called thee Hope. Merrier than April was thy heart, warmer than June. Then they laid thee beneath the ice in tender years, and Hope, my only Hope, has died with thee. Such are the pranks of that Creator whom men reverence. May I never see His face. . . .'

Bitter ; and true. How is this one :

'Under this blossoming lilac, and enclosed within an oblong box of cedar-wood that erstwhile held her father's fragrant *Orrores extra muros*, lies the playmate of Isobel's innocent hours, Timothy, the darling, the green-eyed kitten. . . .'

I will now distil a few out of recent experiences of my own, and out of this handful of letters :

'At daybreak the Master rose from his couch and clomb the steep hillside. There he ate and drank, beguiling the noonday hour with friendly converse. When evening drew nigh, he went his way homeward. What happened at 2 p.m. will be revealed on the Day of Judgment. . . .'

'Why always "not yet"? Do flowers in spring say "not yet . . ."?'

'A certain young rogue at Phaleron begs in one breath for a toy steamboat and a real girl. Zeus dear, what shall I do about it? . . .'

'Coming events cast their shadows before. Phillida's coming baby will cast no shadow for several months. . . .'

'Uncle Dick!—Well, Tommy?—How many coolies did you shoot in India?—That depends, my boy, upon what you call coolies.—Ones with horns. . . .'

§ Ones with horns. . . .

This will never do.

NERINDA

TO NANCY CUNARD

AUTHOR'S NOTE

THE disintegration of a personality—it takes time.

Day after day I watched the mischief at work, in the person of my best friend. I failed to divine its import. Who would have dreamed of such a thing? The attack was so insidious, and he so sound in mind and body! *That* I knew as well as anybody else, for we had been inseparable since our school-days; we had travelled together in Germany, in the Alps, in Italy. At that time we had moved from Dorsetshire to Deeside for the sake of the grouse, and all went well. It was in the 'nineties, the very early 'nineties.

There something must have gone wrong with that clear brain; something must have snapped. Headache, sleeplessness . . . no great harm in that; we are all liable to such trifles. But why had he grown melancholy without a cause, why was he so irritable, and secretive, and suspicious? I thought it strange, and soon it was forced upon me that he was putting on a new character, that some hideous process of *alienation* had set in. More than once he hinted that he was surrounded by a kind of wall, a wall

of hostility ; the servants, the other visitors—notably a fat she-cousin of mine, a harmless creature—they were all in the plot. Then more insomnia and a more marked distrust of me : it was a positive obsession. Often I asked what on earth I had done to displease him ? He would answer :

' Oh, nothing. You couldn't understand if I told you.'

' Look here : something 's up with you. What is it ? '

' Don't bother about me ! Think of yourself.'

' There 's nothing to think about.'

' Isn't there ! '

Only on one occasion did he open a window into his soul, and give me a harrowing glimpse of what was passing there. He reminded me that years before, during a stay in Switzerland with his parents, he had met a young English girl to whom he took a fancy ; a boyish affair. Returning to our school, he wrote her a kind of love-letter which, at his request, I translated into English. For some reason or other, she never replied. Girls are stupid, we concluded, and forgot her. There were others to choose from ! Now, after all these years, he fished this little incident out of the past, and began to brood over it. He was convinced, he said, that I had deliberately inserted some word, or omit-

ted some word, which altered the sense of the letter and put the girl against him. And how happy he might have been with her ! . . . A trivial matter, but not without value as showing the kind of stuff on which a distracted mind will feed.

So the weeks passed, full of tension and misunderstandings. Never shall I forget those walks over the moors—the horrible silences broken by outpourings of ideas so brilliant and yet so incoherent that they made me shiver. And there was worse to come. He began to hear things, and to see things, that were not there. I thought : hallucinations ? This looked serious. Was the fellow going mad ? And so unhappy all the time ! I was the chief enemy now ; I knew it by the way he watched me. None the less he kept his secret. He was clever and well brought up ; he knew he was my guest. He dissimulated. A certain ominous politeness accompanied him to the doors of the asylum, where they took him in the nick of time, maybe, to forestall some maniacal outburst.

The months passed. He was reported to be improving.

After a couple of years they let him out, apparently cured, and his parents begged me to come and see him. I found him reasonable, but very subdued. A shadow had fallen over

him. At one moment he began to whistle a tune. I asked :

'What 's that you 're whistling ? '

'Just a little song between two asylums.'

I stayed with them a couple of days and then departed, unconvinced.

Not long afterwards there occurred a violent scene at home, a second internment, and death.

Such an experience, coming at that period of life, was bound to leave its mark. The summer on Deeside haunted me like a spectre. That train of miserable happenings was still pursuing me years later, on the shores of the Mediterranean. How lay the ghost ? Perhaps by raising a memorial to my friend, a memorial not for others to recognize but only for myself to remember him by—a commendable method of placating spirits of the dead, and restoring peace of mind to those who survive. What kind of memorial ?

And there fell into my hands the *Inferno* of Strindberg, lately published. Whoever reads this book will feel, or ought to feel, a sense of dislocation.[1] It is so convincing (if protracted)

[1] I have seen an English rendering of 1912. It omits the most important part of the book, the Prologue, that 'Mysterium '—an artistic inspiration—which strikes the keynote of the whole, though not expressly written for this work. And, of course, the reference to this Mystery has been cut out of the Epilogue. Is this the way to translate ?

a study of the borderland between reason and unreason, of the paranoiac temperament as revealed from within, that one questions whether another man will ever again be born with the necessary qualifications for such a task. Surely, I thought, and still think, nobody has yet gone mad with a more lucid brain! As a mere chronicle it attracts the reader with its changing moods, its multifarious and suggestive divagations; it will serve, at the same time, as a textbook for medical men; and that I should come across it just then was obviously an omen, one of those 'omens' which were always lying in wait for Strindberg. *Omen accipio.* It gave me the cue. Did I not also possess first-hand knowledge of these things? Could I not produce a human document on the lines of Strindberg?

This is how *Nerinda* came to be written—at Pompeii. It was to be my first, and last, excursion into the domain of fiction. I took time over the business, and confess that the composition gave me an infinity of trouble. I confess, likewise, that I was pleased with the result, vastly pleased.

One must have been easy to please in 1899. The chief interest I now find, in glancing through these pages, is not because some of my friend's very words are enshrined in them; that ghost is laid. It is because they contain the

seeds of much that I afterwards wrote about the country down there.

Meanwhile came a reaction. I grew diffident as to the story's merits, vastly diffident. It might be all wrong from beginning to end. Yes, it *was* all wrong ! Better stick to biology, after all, and contrive some other kind of memorial . . . I was on the point of tearing up the cherished production when an idea occurred to me. Expert opinion : that would settle the question. Of literary men, however, I knew only a single one at that moment—Marion Crawford, who was living round the corner, at Sorrento. I dreaded his steely blue eye. Besides, the reference in my manuscript to the church of Pompeii would infuriate him, an ardent Catholic. And then he was a story-teller (so good a one that some of our present-day novelists might profitably study, say, the *Rose of Yesterday* in order to learn how to preserve the three unities, if such trifles still interest them)—he was just a story-teller ; what could Crawford be expected to know of the symptoms of ' paramorphic insanity ' ?

Henry Maudsley . . .

It was Maudsley who coined that expression. Here was the expert I needed.

I had been led to his books long ago by Darwin, who often quotes from them. With Maudsley

the alienist I was unacquainted ; I knew him as the man who helped in so masterly a fashion to clean up the Augean Stables of what was then called psychology. I had tried to understand his technical writings and found that even an outsider can discover therein something of note, such as his remarkable anticipation of the James-Lange theory of the emotions ; [1] of his more popular ones, like *Body and Mind* or *Natural Causes and Supernatural Seemings*, I thought (and, once more, still think) that they ought to be read by every self-respecting Englishman.

Maudsley was my man.

Nothing would induce me to take such a step nowadays. I have lost the grit, the impudence. Then, however, it seemed the most natural thing in the world to ring the bell at No. 12 Queen Street, send up a card, and ask to see the professor. He was alone in his study—I had probably called at some quite unprofessional hour—and gravely pleased, or so it appeared, to give himself up to my concerns. I began to speak of that manuscript . . . it dealt, in literary fashion, with a case of primary madness. . . .

[1] *South Wind*, p. 46. I drew his attention to the matter at a later period, and this is what he wrote (July 15, 1904) :

'. . . I had noticed with some surprise now and then references to Prof. James's discovery, believing that I had said something of the same kind long ago and that he was not ignorant of what I had set forth. . . .'

'Do take a chair. Make yourself comfortable.'

I sat down, and straightway felt at home in the presence of this calm being. His person was lighted up by an inner glow, a steady glow —the kind of glow which one rarely finds among people of the artistic or musical temperaments. It derives, I think, from persistent and disinterested research ; it is destroyed, I think, by those worldly trivialities, meannesses, and passions to which those others are unavoidably exposed. I have noticed the same tranquillity, the same air of detached benevolence, in others of his genus—the physiologist Leydig, for instance, or Francis Galton. In Maudsley's case it was most pronounced. Now he began to talk, and in so pleasant a fashion that we forgot all about the manuscript. He asked about my studies, my travels, my past life ; we spoke of religion, of theatres and politics. . . .

I thought : 'What a charming old gentleman ! He is interested in everything on earth.'

Simpleton that I was. Only much later did it dawn on me that the charming old gentleman was putting me through my paces ; he was probing my mentality and searching for a weak spot, for a chink in the armour. I feel sure that it would not have surprised him in the least if I

had suddenly announced myself as the bearer of a confidential message from Prester John.

The agreeable conversation drew to a close at last, and now it would have been only natural for Maudsley to excuse himself from the tiresome task of going through that MS. and to send me about my business. He had devoted a great deal of his valuable time to my case only to discover, in the end, that I was hopelessly sane ! A queer sort of patient . . . He did nothing of the kind. Whether because of my amateurish familiarity with his writings, or impelled by some deeper motive, he insisted on my leaving the paper there. He would write to me in a day or two what he thought of it.

In due course a letter from him arrived. It was dated 30 June 1899, and said, among other things, that my ' imagination was delighted to ecstasize in a final horror. I am not sure,' he went on, ' that such exercise of the imagination is a healthy exercise. The closer one comes to morbidity in art the more risk there is of becoming morbid. Who was the old Greek player who was so determined to act madness successfully that he went mad at last ?

' So much said by way of discharge of medical conscience, I may add that I read your study right off with much interest. The form of aberration seems to me ingeniously and logically

conceived and developed. If I criticized its literary presentation I might venture to think that it would be improved by the omission . . .' and here he named several paragraphs that struck him as intrusive and pointless.

Ingeniously and logically conceived and developed ; that was encouraging ; it decided the fate of *Nerinda.* As to those unnecessary paragraphs—he was perfectly right. Out they went !

The daily work which confronted Maudsley must have been prodigious. Yet, from sheer kindliness, he brought himself to read a lengthy manuscript written by a stranger, and to send him a letter of four pages in return. So true it is that the busy man always has time for everything. Later on I sent him *Nerinda* in print, and this is what he wrote about it on the 18 September 1901 :

' The story of Nerinda seems to have been improved since I read it, or at any rate I appreciate its psychological truth and artistic merits better than I did when reading it in MS.

' I admire also the art of your descriptions of scenery which manage to convey the adequate impression without blurring it with overwording.

' I am afraid the critics won't do you justice—first, because they are incompetent . . .' and he added two more reasons.

Maudsley was not altogether wrong. One of these gentlemen (*Standard*, 26 December 1901) took me for a woman, and regretted that 'she' was not sufficiently well-advised to burn the manuscript instead of printing it. He said: 'Her manner is picturesque, but it is artificial, there is nothing first-hand about it.'

So much for the genesis of *Nerinda*.

NERINDA

CAPRI, March 20.—It was a Homeric day. The atmosphere trembled with love and light. How happy I would be if I could divest myself of that sense of loneliness. . . .

Capri, March 21.—We spent the afternoon on the summit of our favourite hill, a magic spot where the spirits of sky and ocean still deign to hold communion with a favoured few. The view at our feet is assuredly one of the most impressive in creation—an ancient world lies spread out in rare beauty of colour and outline, and every inch of its ground is fraught with associations.

Here, surely, on the gentle shores of the Mediterranean, true beauty resides with its harmony of form and colour. The works of man in these regions stand out in just proportion to those of Nature ; each supplements the other. Elsewhere she is apt to be hostile to him ; she becomes either gloomy or monstrous. At the Pole mankind struggles with the elements and grows into a hero—the light fails, vegetation

refuses her aid, he invokes the pale Sun as a beneficent Goddess ; in the Tropics his works shrink into insignificance, he is crushed by the vegetation, devoured by the Sun, whom he execrates as a demon. Nature triumphs and man dwindles into a stoic.

Here, surely, on the gentle shores of the Mediterranean, one might be happy !

Capri, March 23.—Bertha does her utmost to cheer me up. May she have her reward ! The soul of goodness dwells in my sister. But . . .

Shall I be always alone ?

An inward voice says, ' No.'

Capri, March 24.—Far away, in the blue distance across the incomparable gulf, a promontory lies, faintly shining. It is where Lucullus, the temperate warrior, retired to meditate. And where is now his civilization ? Nothing but ruins.

Doubtless he similarly thought upon the remains of old Hellenic culture that met his eye in every direction, and wondered when the time would come for his own to decay and perish. For he was not a man to cherish illusions on that score. It is only we who imagine that our

state of things will last for ever, because we do not give ourselves leisure to reflect.

That time has now come, and what would be his impression on revisiting these scenes? Would he bow the knee to our ideal of beauty? Would he be eager to adopt our mode of life, our gods, our aspirations? I doubt it.

And Tiberius, the dragon of Capri, whose breath still infects the island? Surely he cherished as few illusions as the other, for his was a yet more plastic mind. Though ruler of the earth, he was not blinded by his splendour; the arch-deceiver remained undeceived. He could read the signs of the times; he knew that his world was even then crumbling to ashes.

Tiberius was an essentially modern type. No wonder that a man of his temper and capacities should have been misunderstood and misinterpreted in an age of ignorant bigotry. He was modern even in his failings; he suffered, in his old age, from a vice—an inhuman lust of cruelty—which some of us moderns can understand and would even imitate but for the fear of a law that had no terrors for Tiberius. Nowadays we should call him a *neuropathe*. There is a stage when nothing short of the spectacle of tortures and rivers of red blood will prick the jaded appetite. I think I can understand a

certain pleasurable emotion arising out of the sight. . . .

While we lingered, darkness came on with mysterious rapidity. The sun had set, but the sky, at first, still glowed with opalescent streaks of light that shone like flashing meteors strayed from their path. Suddenly they vanished and there was a great stillness. The landscape at our feet floated in an ocean of liquid pearl. Then a purple veil fell over all things. The evening star glittered overhead.

Capri, March 25.—This is what I wrote out for Bertha—a kind of day-dream, for I still doze a good deal in the afternoons :

'When the whole island was covered with luxurious plantations and cool, marble-paved courts, Tiberius, the man-demon, could be seen slowly pacing its terraces, or borne, in cunningly-wrought litter, from one to the other of his pleasure-houses. . . .

'He has arrested the bearers at a favourite spot and has stepped out in order to breathe the fresh sea air. He looks about him. An argosy from Egypt comes wafted through the straits laden with corn for Puteoli, and other merchandise. The remotest valleys of the East have been ransacked to produce perfumes and

oils for the curled locks of Roman beauties, and many a laughter-provoking Milesian fable is breathed westwards on the lips of the Greek sailors.

'It has entered the bay and an angry line contracts the old man's brow.

'"When," thinks he, "shall I set my foot once more upon Italian soil?" The attendants are dismissed with a petulant gesture, and he walks towards the sunlit theatre leaning on the arm of a slave and regretting the lost vigour of youth.

'Once seated in his ivory chair an irresistible drowsiness overcomes him. Sleepless nights have been his portion for many months; a silken couch has no attractions for one who dreads death at every hour and in every shape. He loathes his self-imposed solitude, and the animated theatre alone invites to repose. . . .

'The scene, with his Corinthian dancing-girls, its pillars of Phrygian marble, its background of leafy garden and blue sea, is fast fading before his eyes. . . .

'Tiberius reigns in another world. The imperial purple trails on the ground, and those restless lids are now half closed. A bunch of fragrant daffodils—the morning's offering of fair Theano—is tightly clutched in his withered hand; a sardonic smile hovers about his mouth. . . .

'He is dreaming of Sejanus.'

I wrote no more, but the strangest part of the dream followed. For Tiberius spoke to me. He said plainly : '*It will come.*'

To what, to whom, did he refer ?

To myself ?

So be it.

Capri, March 27.—Headache : the usual punishment for feeling too well. I am glad Raymond did not accompany us to this country. He is somewhat too boisterous and matter-of-fact.

Capri, March 28.—For ten months I have been forbidden to read books or even newspapers—an intolerable restriction. That is why I have only to-day accidentally heard that the meteoric genius of Maupassant has sunk into the black night of madness ; and just at the time when it gave promise of new and milder beauties. His works illustrate the difference between form and formalism. Alas ! that fatal search after new sensations—the too-frequent concomitant of an artistic mind.

And Nietzsche smitten, only the other day, by the same fate.

The lightning, says Herodotus, strikes the tallest trees.

A curious coincidence. The German and French madmen each conceived a being who should supersede mankind. Each of these conceptions is characteristic of its respective nation. The Teuton *Uebermensch*, as philosophy, a nugget of gold ; the Celtic *Horla*, as art, a priceless pearl.

Capri, March 29.—To-morrow we return to our old quarters at Sorrento.

Last night we hired a boat and paid a torchlight visit to our grotto. The effect of the illumination was fairylike. Quick and tall shadows trembled on the moist roof, as though troops of scared sea-ghosts were flitting dismally into the night. Here and there gleamed fiery eyes. A pungent smell of sea-wrack filled the vault, and the restless waves could be heard as they caressed the dripping walls far away in the recess. They sounded like the heavy breathing of some monster of the deep.

A sailor sang us one of his Neapolitan songs. They are the pure expression of joy of life—a natural product of human life on this divine coast.

Bertha said (I think she must have been quoting) : ' Where words cease, music begins.'

I said : 'And where music ceases, kissing begins.'

While we listened there rose up from the sea another sound, that certainly spoke not of love of life—its weird tones could be construed into no clear expression of human sentiment. It only recalled a sense of hopeless yearning. It was one of those primeval chants of mankind, whose sphinx-like melodies still linger on this coast and defy the musician's art to record them. The long-drawn notes spoke of submission to a dark fate.

They sounded ominous to my ears.

Capri, March 30.—We have delayed a day.

Bertha asks me, *à propos de bottes*, what objection I have to the religion of these people. I tell her that it offends me at every turn, that it is a permanent source of irritation to me on account of its ugliness and cruelty. That idea of eternal suffering. . . .

Sorrento, Tuesday.—This is evidently a feast-day of some kind. These people, if you believe them, are always on the brink of starvation, yet they find time for two or three feast-days every week. They are letting off the fireworks

in broad daylight. They cannot wait till it is evening.

Sorrento, April 7.—Day after day I sit under this ilex. Once more a calm begins to grow up around me. But it is a calm, a hush, that can be felt. I suppose they were right in saying that my nerves were overstrung ; indeed, I can well believe it, for my intelligence seems to have become completely apathetic and numbed as regards certain things. In other matters I am hypersensitive. And one of them is precisely this *calm that can be felt.* I am overcome with loneliness, with the feeling of an unutterable solitude that surrounds me.

' You are having a good rest ; cheer up, old fellow,' says Bertha. I nod and smile. Rest for the body, yes ; but rest for the spirit ?

It has become a nightmare, a positive oppression. It is not distrust of others, or disgust of life, but simply the result of dispassionate reasoning, thus : Whatever I do, I shall never be able to make myself completely understood by my friends. Friends ! The very word is a mockery. They listen to what I say, they sympathize, they try to understand ! And then I turn away and leave them, feeling that with my confidences I have given away the most precious part of my-

self. Then follows regret and self-humiliation. Surely, surely others have felt the same?

I feel that it is all in vain. That I am alone, that a gulf—yes, a gulf—yawns between me and all human creatures. Shall I explain once more to Bertha? No, it only pains her and affords me no relief. And if she cannot understand, who can? Let be. One way or another, something must happen soon.

Sorrento, Saturday.—Another glorious day. I am always up betimes. Are there moments more divine than those of earliest morning, when something of the mystery of night, and of its moist caresses, still clings to Nature? Afterwards, this gossamer enchantment is rent asunder by the sounds and glaring light of day. The breeze has not sprung up yet, and I can see the grey olive branches glittering steadily, as though carved in silver, against the sea's unruffled surface of pale turquoise.

The sea has an inexplicable attraction for me. Ever since I was a child I have longed to be a diver and to explore those mystery-peopled lands under the green roof of water. I never look at its glassy depths without a yearning to plunge in. Who knows what lovely beings may inhabit the twilight caverns of the deep?

And then, those grey-pink tufa crags, and the white limestone with its tender mauve reflexes ! How much could be enjoyed in this world if—if one were not always, hopelessly, alone !

I know that the severer beauty of Rome, the tender gleams of her golden light and the unspeakable melancholy of the Campagna, is more congenial to Bertha's nature. The beauty of Sorrento is too palpitating, vital and sensual. One longs to grasp it, to absorb it within oneself, to drain it as one drains a cup of wine.

Here I sit every morning and enjoy a spell of sunshine and brief repose. Repose ; for my nights are still restless, and when I rise in the morning it is as if I came out of a battlefield. Reading is still forbidden, and Bertha is stern, although I am yearning to unpack my books.

Here I sit and try to construct within myself another and a better world. Why not ? But that, I suppose, is why Raymond, whenever he wished to irritate me, used to say :

' You are not a real scholar, you know ; you are only a vague, sentimental enthusiast.'

There is, I hope, some sentiment in my composition, but no sentimentality.

What can you expect from him ?

These athletic people may be happy, but they are not always reasonable.

My ilex and the olives in this garden alone preserve their primitive shapes. The olives, indeed, seem to enjoy a particular veneration, as in Œdipus on Colonus.

The other plants are cropped, pruned, tortured and mutilated out of all semblance of their former shape. Why do these people love to mutilate everything? Their childlike, or rather childish, temperament derives pleasure, no doubt, from exercising its authority upon living things.

Where are those pioneers of free thought who woke their slumbering country from her dream of monkish deceits—men who weighed the earth and counted the stars; who peered into worlds unknown, exploring a drop of water as it were an ocean; who enticed the electric spark out of dull metal? Where is the spirit that animated them?

In the *Municipio*.

Where are those artists and philosophers who once shed the light of beauty and wisdom over the whole world?

The artists are now statesmen, whose ingenuity in designing new taxes amounts to nothing short of genius.

And the philosophers are starving peasants, who have to pay them.

Bertha always says I am unjust in such things.

She says I must try not to get fixed ideas into my head. Fixed ideas !

Sorrento, April 10.—It is positively incredible, if I had not seen it with my own eyes.

In the entrance of this house are two rows of artificial paper flowers, resembling red camellias. This is bad taste anywhere, but especially in a land where so many lovely live plants can be obtained. I always hoped the porter would remove this eyesore.

Imagine, then, my surprise when I saw him this morning, can in hand, busily watering these pots. I went up and examined them closely. *The artificial flowers had been fixed, by means of wires, into the branches of a living plant.*

I fetched Bertha. She was equally horrified. She could hardly believe her eyes. And then she thought I took it too seriously and began to palliate their crimes ; but I told her that people who do such things are capable, also, of murdering their own fathers. She said that did not follow. In fact, I am afraid I got into a regular ' state ' ; one of those ' states ' that are so bad for me. The buzzing in my head began again. Then Bertha was frightened and began to agree with me, simply, as I could see, in order to humour me. After a while she said :

'You must admit, Donald, that they have their good qualities, like all other people.'

'Perhaps they have,' I replied calmly. 'I am always open to conviction. To what do you refer?'

'They understand the art of making mayonnaise sauce.'

Ha! ha! excellent! This anti-climax had the desired effect. . . .

Afterwards I became more reasonable and thought a deal about the inhabitants hereabouts and their strong points. That is the worst feature of my temperament; whenever an inquiry is started, my subordinate consciousness broods over it for days and weeks.

And I have discovered another good quality. They can build first-class roads—in fact, they know how to deal with rocks and rivers and to make them subservient to purposes of human intercourse. I suppose this is a legacy from the Romans. If they had only inherited a little more! The sense of justice, for instance. The vilest murders go unpunished. . . .

Wherein lies the attraction which murders, and they alone, possess for the human imagination? Is it because, by their vast complexity, and the variety of their motives, they afford us some means of judging of the range of our own weaknesses and passions? That would be the

intellectual attraction. And the emotional one is clearly this : that we feel a kind of relief in contemplating our distance from those depths of misery and depravity where man kills man, from hunger, envy, or simple love of killing. Yes ; this simple, innate love of killing is a not uncommon motive, nor without interest for the psychologist and student of morals, inasmuch as it accounts for the origin of many of our social institutions.

Also, besides all this, it would be strange if we did not feel a natural concern in the extinction of a human life, seeing that we must all go the same way. That *something*, which was, what was it? Where is it now? How went it? And when the mystery is made to ooze out, painfully, forcibly, deliberately—the attraction will naturally increase.

Bertha thinks murders quite inexcusable in all circumstances. And she added :

' They are not only horrible—but stupid.' I could not help smiling.

Sorrento, April 11.—Headache again. What exquisite shade these olives yield—and yet not veritable shade, but a pearly atmosphere of fairyland. . . .

Sorrento, April 12.—My eyes never tire of admiring the sublime outlines of Vesuvius. And what a feast of colour during those minutes when the shades of sunset crawl up his inflamed flanks ! Then the stupendous dome glows in roseate and amethystine lights, ever changing ; it swells and heaves with life ; the solid mountain dissolves in golden mist ; it is transformed into a web of cloud. You can see through it ! A rare illusion.

Leopardi's *Ginestra* is a sympathetic poem. But I can understand Bertha when she says that in reading such poets she cannot dismiss the notion that she is dealing with a race of buffoons. There is certainly a deal of mere intellectual gymnastics about their productions. As to the Divine Comedy—that monument of bigotry—much of its beauty is swallowed up by the detestable sentiments, sentiments that are enough to prejudice any feeling mind against the faith which it proclaims. I cannot bear the idea of eternal imprisonment. . . .

The poor prisoners, chained up and deprived of love and sunshine ! What foul, outrageous cruelty is enacted between man and man ! This is one of those subjects which, when I think of it, makes me shudder with impotent rage. Who can imagine their hopelessness, their sufferings, their solitude ?

My own case, surrounded as I am by a wall of loneliness (indeed, every one of us has a citadel, his Individuality, into the inner recesses of which none can penetrate)—my own case makes me sympathize with their sad lot. Yes, this citadel ! We pour out our whole heart to a chosen friend ; he, or she, listens ; then suddenly there rises up before our mind's eye a something which says :

' It is useless. Stop ! '

Then you look, and behold—the gulf !

My private opinion is that Dr. N . . . suggested my coming to this gay and sunny climate because he imagined I was really suffering from some melancholy delusion about my solitude. That shows how little he knows my character. If I should ever suffer from any delusion at all, it would, I hope, have some more worthy and disinterested object than mere self.

Sorrento, April 14.—They talk of a visitation of the cholera. Bertha is not alarmed in the least —no more am I. We must all die at our appointed hour. These great waves of destruction have something weirdly fascinating. They show the absolute worthlessness of the individual before the tribunal of Nature. He sets

up his own standards of just and unjust—what does she care?

> A dreadful plague in London was
> In the year 'sixty-five,
> Which swept a hundred thousand souls
> Away—yet I alive!

We have been keeping Pompeii for the last—as a sort of *bonne bouche*, but we cannot restrain our curiosity any longer. To-morrow we shall drive there in the cool of the evening. Bertha is looking forward to it almost more than I am.

Scirocco is blowing: Capri and Ischia are veiled in a cap of clouds. I feel unhappy and lonely again, but must try not to let her notice it.

Night, April 14.—I have committed a sin, and how angry Bertha would be if she knew it!

The fact is, when a temptation becomes too great, I simply yield. What is the good, I say, of wrestling with the inevitable? At the same time, I take full responsibility for all my actions. I do not lay the blame on others. When I do anything, I do not profess to have been guided by any heavenly inspiration, in order to impress my actions with the stamp of righteousness. Read the life of any religious enthusiast, Church reformer or sectarian, and you will understand

what I mean. 'It was told me, in a dream, to do this and that.' 'An angel appeared to me and said,' etc., etc. I would like immensely to have such dreams. So convenient, you know. They take away all responsibility. Of course, persons whose every action, even the most trivial detail of life, is ordained by Providence—such persons cannot go far wrong. That, I suppose, is what makes pious men so pious.

Well, then, I was seized with an irresistible longing to read something, to be again in touch with the minds of others. So I simply unpacked a book or two. I felt so lonely ; I must read or die.

I have been subject to these cravings ever since my birth, and I always know beforehand whether I shall yield or resist. I generally yield.

'Eat and drink!' said Dr. N . . ., 'but don't read. Reading is poison for you.'

Those who may read whatever they like can hardly appreciate my impatience at this long separation from my favourite amusement. For I am only allowed 'a little writing ; not more than half an hour a day.' What it is to be an invalid!

So I unpacked a few books. I looked into Plato's *Symposium* and compared the translations of Shelley, Jowett, and Schleiermacher.

They happened to lie together. It will probably cost me the whole night's sleep.

As to Shelley, he is by far the weakest. His version, a transcription, lacks the completeness, the scholarship and Saxon virility of Jowett. The German comes, perhaps, first of all ; his translation has a curious kinship with the original. Perhaps his language gives him an unfair advantage.

In what consists Plato's peculiar charm ? Why, simply in this : that, with the magic of his language, he makes me think I know more than I do. He exalts my opinion of myself. Is this a deliberate use of his genius ? Hardly. Would it be a legitimate use ? . . . Call him verbose if you like ! Ruskin thinks Shelley ' empty and verbose ' !

Yes, I can well believe that *each of us is continually looking for his other half*. And this desire of union is called *love*.

His other half. His other half ! Where is mine ? Shall we ever meet ? Is she near at hand, or is she separated from me by leagues of sea and continent, by ages of time ?

Why is there so much unhappiness in this world ? Because, alas ! not every one of us finds *his other half*.

This Attic fable seems to call an echo from the most secret caverns of my soul.

Bertha often wonders whether I shall ever find my 'ideal,' as she calls it. I tell her that if my 'ideal' were to appear now, it would be none too soon. I am lonely. That doctrine of elective affinity—what an ugly word for so lovely a thing!

And when one of them finds his other half, the pair are lost in an amazement of love and friendship and intimacy, and will not be out of one another's sight, as I may say, even for a moment.

An amazement of love! Have I ever been lost in an amazement of love? No. But I feel that such things may be. Therefore they may be for me.

The intense yearning which each of them has towards the other appears to be desire of something of which the soul has only a dark and doubtful presentiment. There are no words to describe it. But the soul divines that which it seeks, and traces obscurely the footsteps of its obscure desire . . .

The footsteps of its obscure desire.

Weighty words, these.

Pompeii, April 15.—The drive was delicious. It was an idyllic evening, cloudless and pure—the sun's heat tempered by a gentle *tramontana* breeze that carried coolness from the still snowy Apennines and waked, out of shady gardens,

the fragrance of purple-clustered Glycinia blossoms.

The sublime and the vile touch hands in this country. Men lie sprawling in the gutters, and women, of forbidding aspect, shriek the morning's gossip to each other in hoarse tones across the street. Such voices ! Continual bawling from the cradle to the grave has made them unlike anything else in the world. But poverty wears a smiling aspect. The children, though numerous, do not suggest the overbreeding and underfeeding of many parts of England.

Pompeii is a revelation. We have only been on a cursory visit of an hour or two. Bertha is enchanted with the town itself, whereas the human element of the place is what appeals most to my imagination.

The small museum with its well-preserved human remains is a queer spot. One could dream of it. There are wonderfully intact plaster casts taken from the hollow mould formerly occupied by the actual bodies of those who perished in the catastrophe. The process is one of the discoveries of Mr. Fiorelli, who used to be the principal archæologist.

There was one of a young woman, with eyes half closed as though in pain. It seemed to fascinate Bertha by its lifelike grace and beauty.

' Poor girl ! ' she said at last, after standing

entranced before it. 'Chained up in that narrow case! Who can she have been? Perhaps the daughter of some patrician, hurrying away to escape the awful vengeance of her gods. It is revolting,' she added, 'to expose even her ashes to the gaze of the whole world.' A truly womanly afterthought.

I said I thought she looked more like a nymph.

After returning through the temple of Apollo a curious fancy possessed me. I took Bertha with me along the dusty street as far as the modern church of Pompeii. Heavens, what a cult has defaced this globe! What tinselly, tawdry, gloomy structures! What a grovelling herd of humanity! Assuredly, these preposterous Semitic conceptions, this outrage upon the good sense of mankind, can only have been imposed upon a world of free men in a moment of supreme weakness.

Like gypsies, they have stolen, and now claim as their own, the fair child of Plato, and they try to disguise him by disfiguring his features and bedaubing his skin to resemble their own tawny hide. . . .

And the superstition, such as it is, has already degenerated into mere form. Where are the cathedrals, the penances, the crusades of earlier days? We laugh at the infatuation of our an-

cestors. Our cult is a discarded husk, a gilded chrysalis lying on the wet ground, out of which Faith, the splendour-winged insect, has crept to seek a sunnier abode.

Raymond seriously invokes 'the human soul.' The soul! That unhappy word has been the refuge of empty minds ever since the world began.

Bertha and myself have just discussed a well-worn subject—that of marriage; but there is still a note of sadness in her voice. I know what it means: I know well enough what she has suffered ever since B——'s death in those vile barracks. That was four years ago. Will she never be comforted? But I respect her grief, and she is grateful for this—grateful and serene, a classical character, that looks upon Life and Death otherwise than the majority of this generation.

I explained to her the meaning of that passage from the *Symposium*. She said that she had always felt it and believed it to be even so. Then she said:

'I can see that you have been reading. You know how wrong it is, and that the least reading may do you incalculable harm just now.'

I promised faithfully not to do so again.

In proportion as I grow old I learn to love her gentle nature. . . .

I have a presentiment that something will happen—a presentiment so persistent as almost to amount to bodily discomfort.

Pompeii, April 16.—To-day's visit was more detailed, but my head is yet too full to call the impressions into their proper perspective.

My brain is clouded. . . .

There is one thing that cannot fail to strike all visitors to this town—namely, the lavishness of the Romans in regard to their public edifices, and the smallness of their private houses. They knew what was required for the expansion of intimate family life, for social intercourse as adapted to the climate, for the fostering of genial, kindly conversation—bright courtyards and small rooms. Ay, they knew, the old Romans ; they and the Orientals alone have grasped the secret. These vast cheerless rooms of modern Italy, each with three or four doors, they disquiet the spirit ; the softer emotions take flight and are dissipated in bleak, empty space. Ah, these *palazzi*, interminable deserts of stuccoed ugliness—fit abodes for suicides : they are another symptom of the disease from which so many suffer — *megalomania*. One

wanders about them, oppressed with a sense of solitude. . . .

Solitude !

A propos, Bertha said a curious thing yesterday.

On our way home she wished to pay another visit to the museum, for it seems to have a great attraction for her. We also talked to the keeper, Francesco by name, an old man, with a kindly and intelligent face.

Bertha looked for a long time at her favourite plaster cast.

'I am sure her eyes were violet,' she said at last.

'No,' I replied, 'they were blue.' What made me say that? I cannot think.

'You seem to be pretty well acquainted with her,' she laughed. 'Whatever colour they were, they must have been lovely.'

'She is altogether lovely,' I said. 'Truth mirrored in beauty.'

'Don't be sententious. And yet you are right—for it is strange to think that she is no artistic creation, but an actual human being like ourselves.'

'Precisely so.'

'I wish she could speak. I am sure I should love her, poor girl ! And so would you. Perhaps you would want to marry her ! Perhaps

she is the ideal you have been seeking ! She looks unhappy, and no doubt she had her griefs like—like all of us.' . . . And then she broke off sadly. She was thinking of B——'s death.

It is a remarkable fact that women often make sensible suggestions when they least intend to do so.

Why was I not born in those days ?

Marriage ! I thought again. Yes ; but not according to the hideous and debasing ceremonial of our days. Mine should be a flowery rite of joy and love, an orgy of self-effacement, the very negation of human love.

For what is human love but the apotheosis of self, sordid and vile ? And its means ! And its end !

Such considerations have hitherto prevented, and, I fear, ever will prevent, my viewing the question of marriage in a serious light.

And still it is a subject, in its wider sense, upon which I could become enthusiastic and emotional. For I still take myself seriously. . . .

Indifference, lack of faith, lack of enthusiasm —these be the real mortal sins, these be the outward signs of a moral fatigue of the race, these be the cankers that undermine the body social and politic. A strong man should be capable of strong emotions.

Pompeii, April 17.—A reference to a few pages back shows me that the sentiments recorded in connexion with the church of Pompeii were harsh and intolerant, and possibly unjust. May Nemesis, that truly Hellenic personification, be ever before my mind's eye. And let me have the Roman's broad-minded tolerance towards such creeds as are repugnant to my own sense of beauty and justice.

Who could guess by what quaintly-winding thought-process this confession has found an outlet?

It is a wondrous voyage when one remounts the meanderings of that river Thought, which flows unceasingly, day and night, from birth to death. What dim, half-forgotten landscapes one traverses! 'Is this I,' one wonders, 'who thought and felt thus and thus only yesterday? Only five minutes ago? How I change!'

Well, I was dreaming, as I often do, about the sea; and then, waking into a kind of half-sleep, there occurred to me that most characteristic of all Eastern tales—the tale of Abdullah the Merman and Abdullah the Landman. There is a pertinent moral attached to it, worthy of the consideration of all thinking minds.

Do you remember how the Merman plunges into the deep, and, while the other is already blaming his thoughtlessness for allowing him to

escape, returns to his astonished friend with each hand full of priceless gems, rubies and pearls, and jacinths and glowing emeralds? Glowing emeralds! How delicious! And that truly Oriental touch: 'Pardon me, my brother; I had no basket at hand, else I would have filled it for you.' And then their voyage together in the human element. But here comes the defect of the story—it is here that the Oriental phantasy fails. And this is also that part of the tale which my own imagination loves to fill up!

And the end of this strange friendship?

A religious dispute.

One of them suddenly distrusts his friend's common honesty because he does not share his own particular opinion upon a matter of dogma.

To such an extent are we blinded—and such has been the fate of mankind ever since theology took morality under its wings.

Bertha says I am both obstinate and intolerant. I reply:

'Perhaps. But the blame does not rest with me. Our faults, our virtues, are distilled for us beforehand in the silent laboratory of the past.'

'A comfortable creed.'

'I have never wilfully hurt a living creature. That is the first law. I am a harmless lover of the spirit of beauty.'

'You will find her an elusive sprite.'

'That is what attracts me.'

'A mere idea?'

I reply: 'Precisely. The essence of true love is self-effacement. I have fallen in love with a mere idea. You women are too personal. You have no veneration except for tangible objects. That is why you are never really religious. An idea, pure and simple, never interests you; there must be a man standing behind it.'

Pompeii, April 18.—With infinite trouble I persuaded Bertha to visit the ruins once more this morning. She would have liked to interpose a day and to go for a drive somewhere else. But I insisted and she came. The fact is, I am interested in certain things that will admit of little delay.

Francesco, the old keeper of the museum, who actually sleeps there every night as guardian of the relics, was standing at the door and nodded to us.

We looked at the girl again, but I can see that Bertha is growing tired of her.

'That specimen,' said Francesco, edging up to us confidentially and observing our interest—'that *signorina* is considered one of the finest and most successfully reproduced. It is as if she

could speak ! *Molto ben riuscita, ma molto !* Professor Fiorelli himself admired her most of his whole collection. Look you, there was an artist, Signor Rapino, who makes studies of the head for his great Maria Magdalena picture last year—well, he used to say that one could almost fall in love with her, like that young man mentioned somewhere in Lucian. Look at her pretty foot ! '

' How they do love to hear themselves talk, these people ! ' said Bertha.

' The poor *signorina* is now imprisoned in a narrow cell, ha, ha ! ' (I could see that Francesco has no real sense of veneration, or he would not have spoken in that fashion. But lack of veneration is one of the chief characteristics of the natives hereabouts, and a symptom of an exhausted race). ' And yet, when she was alive, no doubt she loved to play with her friends, and to walk on the Corso, and to go to the Theatre, and to take pleasure like all of us. Observe her ! It is as if she breathed with life. *Pare viva ! Pare una cristiana . . .*'

' Look, look ! ' I said suddenly to Bertha. For it really seemed as if a faint pink flush had, for a moment, suffused her ashy features.

Bertha saw it too. She said it was only the reflection from the red-brown panel of the door.

I envy Francesco living near so much beauty.

We had a discussion about it in the evening, and I pretended to believe that the girl was really alive, and that I was going to marry her. It was quite amusing to listen how Bertha argued with me—she has never acquired the true art of arguing.

'Nonsense!' was all she could find to say.

'You may call it nonsense if you like,' I calmly replied. 'But I know what I know.'

This fortunate phrase, you observe, did not commit me to any opinion, and I kept on repeating it till she became quite angry.

'You repeat these things till you end in believing them.'

'I know what I know, my dear.'

'Nonsense!'

'Call it nonsense, then. But I know what I know.'

'I do wish you would drive that stupid idea out of your head,' she said at last.

'Then you ought not to have put it there,' I replied. 'It was yourself who proposed the marriage.'

I kept thinking about this all last night. . . .

Pompeii, April 20.—My brain was too tired to write anything yesterday. I have been thinking the whole time.

We hardly referred to the museum discussion again. Somehow or other it has become a sore subject between us ; or, at least, one to be avoided. I think I weary her with my remarks, and she tries to turn the current of my ideas to other matters. At last she declared outright that the girl was nothing but a heap of ashes and that——

'No, not a *heap*!' I retorted, seizing the long-sought-for opportunity. 'Don't forget, *form tyrannizes over matter*.'

'Yes,' she admitted.

'And *love triumphs over death*,' I added slowly.

'Yes.'

And then she sighed. I could guess her thoughts. She was thinking of B——. But could she, or any one else in this world, have guessed mine ?

I had carefully prepared the sequence of these two remarks, and I watched their effect upon her. They went home.

I fear I am beginning to take a pleasure in annoying, or at least mystifying, her. I never knew there was so much capacity for mischief in my constitution.

Bertha suggests that we should go back to Naples soon.

She says I am becoming irritable.

It is really wrong of me to vex Bertha after her untiring kindness and solicitude for me. Why must I do it? Whom have I in the world besides her? Who loves me as she does? Who? No one? Is there indeed no one? Or perhaps . . .

April 21, 3 *a.m.*—I have just awoke from a divine dream. I was standing on a beach, all alone, and gazing sadly seawards, and then some one came and whispered, for a moment, in my ear—such truths! Things that I have never heard, and yet knew. How do you explain *that*?

And what were they?

I have forgotten.

And who was she?

Ah!

How shall words, mere words, convey any sense of the utter bliss of those short moments?

Imagine it if you can!

As for me—if death be like this, let me die. . . .

11 *a.m.*—This was an adventurous expedition. I crept in the grey of dawn, before sunrise and immediately after my dream, in the well-known direction. Bertha knows nothing—so much the

better. The dusty, hot, unsheltered path, with its scanty grass at the sides, was invested, in that early light, with a dewy charm and redolent of a subtle fragrance exhaled by the rich volcanic soil.

I imagined myself some lover creeping to a secret meeting with his betrothed. That is a pleasant illusion and can harm no one. Altogether, considering how little harm I do, I am sometimes surprised at the number of those who secretly bear me illwill. . . .

The door was locked ; Francesco was evidently still asleep. At last he heard my knocking and appeared in his *négligé*. How funny he looked ! Have you ever skinned an owl ? No ? I have. And this is what his appearance recalled to my mind. Your owl looks large and imposing in his ruffled feathers, but when you have relieved him of his skin he is transformed into a meek and diminutive pink deformity, with huge eyes. He looks so funny ! And Francesco, without his official uniform, seemed to have shrunk into a mannikin that one might crush in one's hand. Indeed, strange to say, I had a curious inclination to throttle him then and there, I know not why. Jealousy, perhaps.

He let me in, somewhat surprised at my early visit, and I wandered round the apartment with an air of proprietorship, as one who has entered

his own house. It is so pleasant to have a house of one's own. . . .

'The signore can make himself quite at home,' he said, as he took my hat.

I should think so !

Then I gazed at her long and intently. But no ! She gave no sign of life—not a sign, not a sign.

She seemed to slumber.

Is Bertha right after all ?

I must try to have a good rest this afternoon.

Pompeii, April 22.—The chivalrous adventure has been repeated, and I am taking a great fancy to these little excursions. But Francesco was surprised and seemed suspicious, so that I was obliged, at first, to wander round the room in a *nonchalant* manner, looking at all the other things and only glancing at her coyly now and then, like a bashful lover, out of the corners of my eyes.

I believe he thinks I came to steal something.

And so I did.

I came to steal a heart.

He asks if he can be of any use to the signore ?

I reply : 'Perhaps some other time.'

This means, I suppose, that he wants money for his trouble. I gave him some, and his

humour improved. What weak creatures we are! Then, observing the direction of my glance, he remarked:

'Fiorelli was indeed a genius—is it not so?'

I told him that I did not care to hear about Professor Fiorelli.

'*Un genio!*' he repeated.

'A man of taste,' I corrected.

'*Un vero genio!*' he went on, shaking his old head with conviction. Francesco is becoming decidedly intrusive.

'I do not wish to hear his name mentioned, Francesco. He was a talented archæologist who did his duty. *Basta!*'

'Talent?' he asked. 'We call it——'

'Who are you, obstinate old man, to pronounce on the enigma of genius? Your archæologist was a clever man, *e basta!*'

'*Un gran genio!*' he repeated, with the pigheadedness of his race. 'Yes, you may well look at her, signore. She is as near perfection as art can make her. A divinity! *Pare la natura!*'

'Art, Nature, Divinity, Genius! How you people throw the words about. The confusion in your head, my dear Francesco, would drive me mad.' And I felt as if I could have murdered him, I did indeed.

Then, seeing that he looked really scared, I

tried to laugh ; but I only half succeeded, because, at that moment, a curious fancy entered my head, or rather, an intuitive conviction ; the conviction, namely, that if I could be allowed to touch her, for one instant only, she would feel my touch and perhaps—ah, God! —perhaps open her eyes with a look of thankfulness, the thankfulness of a poor prisoner who has found one heart that throbs in sympathy with her own sad lot.

I hinted my desire to Francesco in my most engaging and insinuating manner. It is surprising how humble I made myself. I felt I could do anything, good or evil, to obtain my wish. That, no doubt, is the true lover's spirit.

'*È impossible, caro signore*,' he replied, shrugging his shoulders and pointing at the cap of his official uniform with an expressive gesture.

Then I must try to do without him.

Pompeii, April 26.—I have made a grievous and wellnigh irreparable mistake. I have told Bertha all—my whole heart, the whole truth. She shook her head obstinately, and began arguing—' convincing me,' as she called it. I told her that the time for discussion was now past. Alas, the gulf—the immeasurable gulf ! She even wishes to take me away. She refused

to understand me. Then I told her to suspend her judgment for the present, at least. No! Come and see for yourself? No! Then I bowed and left the room. Assuredly I have done my best for all three parties concerned. Three parties? Yes, there are now three of us.

The gulf! But now I am no longer without hope of a comforter. I can afford to lose Bertha, who, even in her most expansive moments, never really entered into my ideas and projects.

And what is the truth? Believe it or not, here it is.

All yesterday I had a bad headache and lay in bed. Else I could have written down a good many things that occurred to me which I have forgotten by this time again.

And as I lay, there came another dream to me, wonderfully vivid; was it indeed only a dream? I was away, far away, in a calm purple twilight, under the waves. And a well-known voice pronounced these words: '*Save me.*' She also told me that she was neither Grecian nor Roman, but the daughter of an ocean king. (I always thought so!) . . . And then! And then . . . she whispered in my ear her name, the sweet name by which, henceforth, I am to know her—*Nerinda.*

Surely, as I tried to explain afterwards to Bertha, the mere fact of my knowing and re-

membering this name proves that this was no idle dream like others. I swear upon my honour that I have never in my life wilfully deceived others ; that I never invented this name ; indeed, that I could not invent if I tried. But Bertha would not listen. The gulf !

' I suppose it came to you,' she said at last.

' It came to me ! ' I echoed. ' Do things happen without a cause ? It came to me ! Do things come and go as they please ? And if so, why did it not come to *you* instead ? '

Then she began to cry.

One thing is quite certain, and that is, that if they all go on ill-treating me in this fashion, I shall have to take to deceit and dissimulation, however unwillingly I may do it.

Listen, now, to what followed ; for all this was only a kind of prelude, although, so far as I am concerned, I was not in the least surprised at what then occurred. Indeed, I was thoroughly prepared for it : I may confidently say that I knew it beforehand.

I awoke from this dream, this vision, this visitation, this—visit, at about three o'clock in the morning. That is my usual hour for waking. I felt inspired. Dressing hastily, I crept in the dark along the well-known path to Francesco, and woke him up. The day was barely dawning, and there hovered a yellow-

brown mist over the mountains. He lighted a candle, for the interior of the museum was still almost dark.

Now that I am quite calm again I can well understand why Francesco should find me in a state of great excitement, and ask what on earth had brought me to him at that extraordinary hour of the night?

What, indeed? Here was a dilemma. I had never thought about that. But I was master of the situation instantly.

'The fact is,' I explained, hastily inventing a lie, 'we are leaving to-day, this very morning, and I wished to come once more and thank you for all the trouble you have taken. I may not have time later on—there is always so much to do at the last moment. Please accept this little remembrance from my sister and myself,' and I gave him a bloodstone ring which I happened to be wearing.

Bloodstone . . .

'The signore is too generous,' he cried, sincerely moved, and trying to kiss my hand. 'How shall I ever thank you both? But then,' he added, with a laugh, 'you must surely come and say good-bye to Professor Fiorelli's signorina. You have taken so much interest in her . . .'

'She is not Professor Fiorelli's signorina. She is mine.'

'As you wish, Eccellenza,' he replied, with a conciliatory smile.

So far good, I thought.

'Give me a candle, Francesco; and will you please look if the sun has not risen yet?' That was sly of me.

He went out through the half-open door all unsuspecting, and took a turn outside on the stones to sniff the morning air. You see I remember the smallest incident; I am something of an artist in my love of detail.

So far good.

And was it to be farewell? Was my devotion to go unrequited, was my faith, my love, my hope, to be shattered without one sign of recognition?

'Nerinda, Nerinda,' I prayed, 'do you not remember?'

And the tears fell—ay, they rained—from my eyes. I prayed with the faith that can move mountains, with the ecstatic rapture of a saint. I lost all shyness; what cared I if the whole world were looking on? How I prayed! And how I gazed!

'Nerinda, my heart's desire, my other self—a sign!'

And lo! It happened even as I expected. Her cheeks coloured and her curved lips quivered slightly, ever so slightly, like an ane-

mone flower trembling in the breeze. Life, for one short moment, flowed through those delicate veins. As for her eyes—I gazed, and methought I looked into another world.

'The sun is rising, signore, and the weather promises . . .'

'Come here quickly, Francesco,' I interrupted, even then still ready to doubt the evidence of my own senses. 'Now look, Francesco, and tell me honestly: what do you see?'

'*Pare viva* . . .' he began, confused.

'No wonder you are astonished,' I said calmly. It was my turn to be calm now.

Ah! I knew it, I knew it, I knew it from the first day I saw her.

And in that moment my plan of action was decided. A path of duty lies plain before me.

I left the building elated, triumphant, convinced.

Then, in the course of the morning, I told Bertha all. I thought she would——

I was interrupted in my writing just now. By whom? By a visitor. And do you know who she was? Ah!

I thought Bertha would wish me joy. But no. She has been disappointed in her own love, and I suppose it is natural enough that

she now wishes to spoil my pleasure. Natural, but not agreeable. The gulf! I shall make no more confidences.

She proposes to go to Naples to-morrow, but I propose to propose something else. *Nous verrons.*

Villino dei Fiori, Castellamare, May 2.—The reign of dissimulation has begun. I have atoned for my mistake by a brilliant stroke of policy. I told Bertha that Naples was too noisy and unhealthy, and that my nerves were not yet in as good a state as they should be (those were my exact words, and they seemed to weigh with her !) and that the purer air and country life of this place would do me good. So we have hired this little villa, which suits me admirably. A hotel would have been impossible for my purpose. I pretend to have forgotten Pompeii, and I succeed beyond all expectations. Whenever she tries to test me, by referring to it accidentally (as it were), I laugh and treat the whole matter as a joke. Ha, ha ! As I do not yet read anything myself, I have persuaded her to read aloud to me Fouqué's *Undine*, which she does all the more gladly because it is one of her favourite stories. She little guesses what attracts me so particularly in this tale !

It is in this garden that I sit and think, and think, and elaborate my plans. She could never imagine my real motive for living here. But I must be circumspect, and stealthy as a cat.

I am like a general on the eve of a battle, reconnoitring the ground and spying out the enemy's camp.

Who is the enemy?

The whole world.

I cannot go to see Nerinda at present, in order not to attract Bertha's attention. But to atone for that, Nerinda appears to me almost whenever I wish, so we meet after all. And this is how I have come to know the truth—*she loves me.*

The more I think upon it, the more I hesitate whether to weep or to laugh. Listen. Bertha professes to love me. She regrets bitterly that I have not yet found my ideal. At last I find my ideal. Then she becomes angry. She even mistrusts me. Surely there is something radically wrong with this world. . . .

Castellamare, May 3, 3.30 *a.m.*—My eyes frequently wander in the direction of Pompeii. But that is forbidden ground at present, although I have made exhaustive surveys of the roads. *Kommt Zeit, kommt Rath.*

May 4, 3.25 *a.m.*—

> I arise from dreams of thee,
> In the first sweet sleep of night. . . .

One kiss—one kiss ! And if it costs my life. Besides, I must discuss certain plans with her before taking decisive action. But why my life ? Why not that of another ? Do the stars care what little atom is extinguished here below ?

Who is he that dares to interpose between me and my immortal Love ? I will make one more attempt.

It has been an ignominious failure.

I found my way in the grey dawn to Pompeii along the small field-paths already marked out for the final triumphant entry. Not a soul saw me. I was obliged to swim the river, bearing my bundle of clothes in one hand. Who cares ? I should know the path now in the very darkest night. My life has grown full of chivalry and romance.

How beautifully fresh the air ! It did my head good. What relief to be in physical contact with Nature ! I am weary of men and their treachery.

Francesco was there and opened the door as usual. He seemed surprised to see me. I went straight to the point.

'Is it impossible for you to open that case? *Even after what you yourself saw the other day?*' I added with emphasis.

'Impossible, dear sir.'

'I would give you enough money.'

'I have a wife and five children.'

'I will provide for them.'

'It would cost me my official position to accept your proposal, dear sir.'

'What of that? Supposing it cost you your life to refuse it?' I asked seriously.

'The signore is pleased to joke with me,' he replied, smiling. A stupid smile!

I tried to explain, I argued, I begged, I threatened. In vain.

What is to be done with such a man?

We shall see. I have done my best.

After that I wandered about carelessly, avoiding her eyes, for I dreaded to see the look of just disappointment in them.

Assuredly, if I were to name the principal characteristic of these people, it would be their mental inaccessibility. True, they are born with a certain amount of ready knowledge, inherited from more talented ancestors, but any fresh idea, however commendable, however luminous, however self-evident—it cannot enter their heads. They think themselves perfect: another sign of an exhausted race.

My brain feels different from what it did yesterday. Indeed, it feels different every day. I suppose that is as it should be. '*Malheur à qui ne se contredit pas une fois par jour*,' says Renan.

Returned betimes. It is a long walk. Bertha remains unaware of this escapade, and it gives me pleasure to deceive her and to watch her face. Yes, it warms the cockles of my heart.

Castellamare, *May* 5.—Received a letter from Raymond this morning. He is engaged to be married. What a most extraordinary coincidence ! Shall I tell him about myself? Perhaps later, when it is a *fait accompli*.

Castellamare, *May* 6, 3.30 *a.m.*—I live in a dream of bliss. I keep my secret as the miser hoards his gold. Who has just been sitting in this chair ? The treasure of an empire would not tempt me to let her name cross my lips. Alas, the dreams wear off towards morning. . . .

11 *a.m.*—Scirocco again. It blows softly, almost imperceptibly. Islands and continent float in a grey haze. There is a heaviness in the air, a stillness—the stillness of things to come.

8 *p.m.*—All living things are hushed. Even inanimate Nature seems to feel the spell.

We walked along the beach in the afternoon. There are some picturesque turret-shaped islets out at sea, opposite the mouth of my river.

Bertha and I are longing to explore them. Thank Heaven that we still agree in something! I imagine they are those mentioned by Pliny, who says that the fish there only eat bread thrown into the sea, and refuse to touch any bait which conceals a hook. Wise creatures! Let me follow your example.

I picked up a water-worn pebble with a distinct female face on it. How came it there?

I showed it to Bertha. She at once detected some resemblance.

'Resemblance to whom?' I asked pointedly.

'Resemblance to the caricature of a human face,' she said.

'Not at all a caricature,' I told her. 'It is a portrait.'

And then I threw it away.

There were tears in her eyes.

What a curious girl she is, to grudge me my happiness!

Female jealousy?

Or perhaps it reminded her of someone else. . . .

Her character must be undergoing a complete change, it is becoming altogether abnormal ; I have noticed it for some time past. But I pretend not to see. I must keep her under observation.

As we passed near the deep harbour, Nerinda was there, pillowed on the curled surface of a wave. There she was—pointing downwards into the depths. Nothing but the sense of a duty still to be performed could have restrained me from plunging in there and then. She loves me ! But I said nothing to Bertha, oh no ! I have learned the lesson, the hard lesson, of keeping my own counsel, of closing my lips when my heart is bursting to communicate its joys to my fellow-creatures.

Villino dei Fiori, Castellamare, May 8, 3 *a.m.*— Wind and weather being favourable, we hired a boat to convey us across to those bizarre islets. A Byronic spot.

Bertha seemed depressed, but perhaps it is only part of some plan that she is hatching. I must be on my guard. In proportion as her spirits sink, mine rise. This afternoon I positively surpassed myself in wittiness. I made one or two puns that would have convulsed a saint.

Then suddenly I became sad. Why? Because, near the mediæval tower on the summit of the rock, there stands a small fig-tree, all alone among the stones. I was sorry for it.

The magic of love! It softens the heart for all that suffers in solitude.

We looked into a little sea-cave near the base of the rock, whose roof was painted with tremulous garlands of light. The wavelets throbbed like stolen kisses. Nerinda was there. I read her wishes in her eyes: they are my commands. '*Save me.*' This was precisely at 11.35 in the morning. I did not speak to her for fear of Bertha, but I waved my hand. Then Bertha, seeing this, smiled at me, or tried to smile—such a smile! More like a grimace. I always judge people by their way of smiling.

Smile, Bertha; smile, World!

Going home the wind had freshened to a breeze, and I remarked that the waves were tipped with crimson crests. What does it mean? I shall not be long in finding out.

Bertha saw it too and said that it was only in these climates that one could appreciate the sense of Homer's colour epithets. She likes to pose, I observe. This is something new, and ominous. I shall keep a sharp eye on her.

Castellamare, May 9, 3.30 *a.m.*—All these days I have been suffering from a bad headache. Better now.

That which is in my heart shall never be committed to paper. Indeed, I feel as if thought alone constituted a betrayal of trust, a kind of sacrilege. If so, may I be forgiven !

Castellamare, May 11.—A final council has just been held, and all the details are settled. The allies have effected a junction. The enemy is in complete ignorance of our position. . . .

How my ideas change from one hour to another ! They are not fixed, it appears.

What does it all mean ? A struggle is going on. There is no retaining my thoughts. Whenever I pursue them, they flit tantalizingly like the phantoms that chase one another before my closed eyes in the interval betwixt sleep and waking. My mind is like a troubled ocean full of eddies and cross-currents and whirlpools, where the recollections are suddenly cast up in flashing pictures, and again swiftly engulfed.

Surely the whole world is mad. Here is Rubinstein, who writes an Ocean Symphony and assures me that he detests the sea ! I shall never forget those evenings at Peterhoff. He

made me play chess till my head ached. A passionate chess-player. Moltke, too. All generals ought to be chess-players. I am a general.

May 12, 3 *a.m.*—A contrary current.

What is the law?

An institution of mankind. Mankind is liable to error.

What is the moral sense of man?

A matter of time and place.

What is the life of man?

Even as the grass it is cut down, dried up, and withered. The microcosm counts as nothing—his blood does not fertilize the soil for coming generations.

> A dreadful plague in London was
> In the year 'sixty-five,
> Which swept a hundred thousand souls
> Away—yet I alive!

I alive! Alive! Why alive? Even so it was preordained.

We have all our appointed tasks, and our appointed lifetime, which cannot be prolonged by one second.

Happy are the dead, for their sufferings are ended. Some day—to-morrow, perhaps—this

will be said of me. Let it be added, then, that I was not afraid of death, that I died in endeavouring to save others.

And who shall estimate the sufferings, the torture of soul, that one poor human atom must undergo? Ah—my head!

Another current.

Is it right to take the life of man?

Is it wrong?

I am poor—I have but a few shillings in my possession. Then some one comes and endeavours to rob me. I defend myself and kill him. The law acquits me. Beautiful law!

I am poor—I have but one portion in this world, one treasure, one desire. And he who would rob me of my portion—what shall be done unto him?

Ah! Now I understand the meaning of those crimson-crested waves. I alive!

I cannot drive those waves away from my eyes. Doubtless they signify a command.

My father was a soldier and I myself must have inherited soldier instincts; and this idea, in proportion as I dwell on it, has become anything but repugnant or distasteful to me. On the contrary, I reckon it will be pleasant to

watch his struggles, to carve him as a dish for the gods, and to behold the warm blood pouring out of a thousand gushing mouths. I suppose this must be the artist's love of re-modelling the raw material and impressing it with a stamp of his own ; the craving of transformation, of making something new out of what was different before. To transform a man into a fountain . . . How I change ! I can now sympathize with that love of mutilating living things which I abhorred not long ago. If I could only do it to the accompaniment of a full orchestra ! But it must be a peculiar melody, fateful and yet kind. There is a trio in the Seventh Symphony of Beethoven, an orient pearl, gravely glowing. . . .

May 13.—She has appeared to me with final instructions. We are to meet in the harbour of Castellamare.

How clear my head is ! I know I shall succeed. *Yet I alive* . . . . . .

. . . . . .

At last they came to Bertha, the local newspapers, and this is what the Neapolitan *Corriere Partenopeo* had reported to its readers :

Pompeii, May 14.—A sanguinary deed was perpetrated last night in our usually so quiet neighbourhood, and its victim is none other than Francesco Sbordino, a Government official, and senior guide to the ruins of Pompeii. The locality chosen renders it doubly mysterious.

No details are known at present beyond this, that his body was found, mutilated almost beyond recognition, at the entrance of the local museum, where the unfortunate man has slept nearly every night for the last eight years as keeper of the relics which it contains. These relics seem likewise to have been tampered with. The robbers had doubtless chosen Saturday with the express intention of carrying off his weekly wages, which are regularly paid to him at two o'clock on that afternoon. In this they were disappointed, as he had providentially left the amount with his family before retiring to the museum for the night. Indeed, it seems that they must have been disturbed at their work, perhaps by some noise of a passing country cart, for they omitted to possess themselves of a valuable ring which he wore on his finger—a recent gift from a distinguished foreigner. Universal sympathy is felt for the family of this highly-respected old man, who seems to have had not an enemy in the world. He leaves a wife and five children. . . .

Naples, May 15.—Immediately upon the receipt of the news of this outrage, Signor Verde-Grisetti, our most energetic Minister of Public Works, who happens to be in Naples at this moment, left for the spot with some other gentlemen. The museum presented a spectacle of chaotic confusion. Some of the relics have suffered considerable damage in consequence of the scuffle that must have ensued. Lovers of art—and who is not a lover of art in our country?—will learn with regret that one of the gems of the collection, Case No. 12, containing the plaster cast of a young woman reproduced according to the ingenious process of our immortal Fiorelli, is completely shattered—that this *chef d'œuvre*, with its clinging draperies and delicately-formed limbs, is now reduced to a mass of shapeless fragments . . .

Pompeii, May 16.—Amongst those arrested on suspicion is a certain Antonio Giuseppone of Castellamare, who was formerly employed on the excavations of Pompeii, but has lately been dismissed for some reason or other. He was unpopular with his fellow-workmen, and—a significant detail!—is the only one of those arrested who could claim a personal acquaintance with the deceased *capoguida*. There are

witnesses who testify that they have heard him using menacing language in referring to the deceased as the cause of his dismissal. For the rest, there seems to be not a word of truth in what he says. This individual (of questionable precedents, as has already been ascertained) did not return to his home on the night of the murder : so much is certain. He claims to have slept in the amphitheatre of Pompeii, and to have done this for some time past, in the hope of obtaining re-employment in the morning. We shall see ! The mystery must be cleared up—the honour of our town is at stake. . . .

Naples, May 17.—As a tragic concomitant of the crime of Pompeii, we learn that the body which was fished out of the harbour of Castellamare on the 14th instant has been identified as that of the young Englishman to whose generosity the dead *capoguida* was indebted for the ring. It presented some abrasions pointing to a struggle ; the clothing was also torn. An insignificant amount of money—calculated, doubtless, to mislead the police into the belief that it was a case of death by natural causes—had been left on his person. The robbers (for it is now clear that there was a gang of them)

may have guessed his wealth to be on a par with his generosity, and, studying his habit of early rising, decided to kill two birds with one stone. The local authorities have instituted a searching inquiry into all the circumstances connected with this affair.

There were various other references to the incident in foreign and English papers, and the end of the whole matter was thus summed up in the words of the *Times* :

2 *July*.—Thanks to the vigilance of the local police, there has been no attempt at a repetition of the double murder, on the 13 May, at Pompeii and Castellamare. Travellers, if not deterred by the heat, may be confidently recommended to return to their former haunts. The incriminated individual, Antonio Giuseppone, persistently refuses to reveal his accomplices. He will probably be condemned, on circumstantial evidence, to ten years' cellular confinement, followed by lifelong imprisonment in the convict establishment of Ponza.

ON THE HERPETOLOGY OF THE GRAND DUCHY OF BADEN

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ON THE

HERPETOLOGY

OF THE GRAND DUCHY OF

BADEN

INTRODUCTION

THIS part of Germany is so familiar to English naturalists that it will suffice, for the purpose of these remarks, to glance briefly over its physical features, to whose influence its exceptional variety of organic life is in great measure due. The Black Forest, forming the backbone of the country, comprises—within a limited area—considerable diversity of aspect. The Southern and Western slopes, skirting the Rhine valley, are reckoned amongst the warmest parts of Germany, while, as we ascend, we find ourselves in districts of an almost Alpine character or on exposed table-lands, such as that constituting the watershed of the Danube and the rivers flowing westwards.

The surface of this region is more diversified than its name implies, and the extensive fir forests, relieved here and there by rocky

eminences or stretches of moorland and lakes, and intersected by numberless rivulets, are productive in variety of specific forms. This circumstance strikes the observer more readily than their actual individual abundance, and can be explained by the fact that many strictly lowland forms, following up the valleys, are found in surroundings no longer adapted to their habits and occupied already by other, often allied or representative, species.

The Rhine valley contrasts unfavourably in point of natural scenery with the mountainous tracts, though this portion of the country is not less rich in attractions for the naturalist, supporting, as it does, some highly interesting types of animal life. An almost continuous and luxuriant growth of wood, interspersed with small sheets of water in connexion with the Rhine, covers the soil on both banks of that river. Here, as elsewhere, the advance of civilization has perceptibly reduced the numbers of several species, and threatens to exterminate entire orders.

Between this belt of vegetation and the Schwarzwald proper, with its northern less elevated prolongations and a portion of the Odenwald in the extreme north, is situated the alluvial Rhine plain, containing the most populous and cultivated districts.

On the geological constitution of the Grand Duchy little need be said, as its direct or indirect effects upon the organisms distributed over the surface are easily overrated, and indeed, in the case of the higher animals, are almost *nil*. It will be sufficient to notice that the more hilly portions of the country are composed chiefly of gneiss and granite, with occasional porphyritic formations superimposed, and that among sedimentary rocks the Trias predominates, being represented by large beds of Bunter sandstone (identical with that of the Vosges) and Muschelkalk ; while of particular interest, as affecting in some degree the distribution of certain species, may be mentioned :—the reappearance of the oolite as a continuation of the Swiss Jura, pierced by the Danube in its upper course ; the occurrence of pleistocene Loess or fluviatile loam, in portions of the Rhine valley ; some noteworthy tertiary deposits in the South-east ; and, lastly, the elevations of phonolite, dolerite, and other volcanic material of the Höhgau (north of Schaffhausen), the Kaiserstuhl (between Freiburg and the Rhine), and one or two isolated points.

Such contrasts of temperature and diversity of surface and soil may be expected to favour the preservation of the rarer indigenous species, while the geographical position of the country

has afforded the necessary facilities for the immigration of foreign ones from various points. It is to the influence of these factors that we may attribute the richness, in almost all its branches, of the native organic world.

Referring to reptiles and amphibians, we find that Baden lays claim to nearly all the German species of the former now recognized, one Chelonian and one Ophidian being absent from the list. Whereas in this instance we have reason to apprehend that the number may never be augmented, there is some prospect that of the two anurous batrachians, with the possession of which this country is as yet not credited, one or the other may still be discovered. Of tailed batrachians only one sub-Alpine form can be cited, to which it is not entitled.

Notwithstanding such inducements, the number of those who have published observations on this branch of Natural History is insignificant, even when compared with that of their collaborators of the neighbouring provinces; so much so, that the author who first, in 1883, sketched a brief outline of the entire native Fauna, is able to enumerate only two previous papers dealing with these classes. In the two pages devoted to Herpetology of that treatise, an accurate, though not detailed, account of the habitat of each species, so far as was then pos-

sible, is given. Since that time this study has progressed with rapid strides, and, as is usually the case, some of the most valuable contributions to a general knowledge of the subject are found scattered throughout various works.

The following notes—founded mostly on observations terminating with the earlier half of 1889—may induce others visiting this part of Germany to take up the same branch. I need not say that much remains to be cleared up, as there is an astounding dearth of information respecting, for instance, the range of some of the more nocturnal and restricted Batrachia, whose economy can be investigated successfully only at certain seasons of the year, as well as of those species that have only of late been added to the Fauna of Europe.

I have refrained from entering into descriptions of typical forms such as will be found in all systematic works, but have ventured to advert to one or two points in the matter of habit and coloration, as corroborating the results of recent biological research.

REPTILIA

Order I.—Chelonia

1. *EMYS lutaria*, Mars.—Any specimens obtained in the Grand Duchy within recent times have doubtless not been of wild origin, and equally little importance can be attached to the accounts of its occurrence in other parts of South Germany, such as in the neighbourhood of Kreuznach and various parts of Bavaria, etc. —reports which have generally been founded on the capture of single individuals, escaped or purposely liberated. In Switzerland, also, its occurrence wild seems doubtful, though F. von Tschudi notes the capture of several in the valley of the Reuss, 'which did not appear to be specimens that had escaped' : others, from the Rhone valley, Lake of Geneva, and elsewhere, are now considered to have been introduced (Fatio), though more recently, again, some evidence of a contrary nature has been adduced (*Zool. Garten*, 1893, p. 168).

Not so in Northern Germany, where this species is found in Mecklenburg, Brandenburg, Posen, Eastern Prussia ; further, in Courland,

—though not in Livonia,[1]—and even as far as the vicinity of Moscow.

Fossiliferous—postglacial—remains testify to its former more extended and connected distribution :—for its range is at present interrupted, for some unexplained reason, between the above-mentioned northern districts and the Mediterranean countries in which it still occurs. Thus an indigenous Baden skeleton has been obtained in the peat of Dürrheim near the Würtemberg frontier ; it received the name of *Emys turfa*, but appears to have been practically identical with the present species.[2]

More remains have been discovered in various districts of Germany, in Sweden, Denmark, France and other countries, including Belgium [3] and England.

Order II.—Sauria

I. Fam. Lacertidæ

1. *Lacerta viridis*, Laur.—This lizard is apparently restricted in Baden to two points, one

[1] See O. von Lœwis, *Reptilien Kur-Liv- und Esthlands*, 1884.

[2] G. von Jäger, *Über die Sumpfschildkröte in fossilem Zustande*, Moscow, 1861. The same author, writing in 1835-39, records that 'within recent times' this tortoise has still been found living near Ulm on the Danube.

[3] E. T. Newton, *Geol. Mag.*, July 1879.

of which, the Isteiner Klotz,—a hill lying between Freiburg and Bâle, and near the Rhine,—is frequently referred to. It appears to be rarer there now than formerly.[1] The other locality is the Kaiserstuhl already mentioned, where it is found in considerable numbers, affecting chiefly the central portions and the warm slope towards the Rhine (in greatest abundance on the so-called 'Badberg,' and near the ruined castle of Limburg), whilst, so far as my experience goes, it avoids the southern and eastern districts, where its place is occupied by a particularly fine race of *L. agilis*.

Specimens from here often attain 30 to 35 centimètres in length and are usually of the *punctata*, Daud. variety, the female retaining more of the green ground-colour. The young of both sexes, at first characterized by a uniform brownish tint, generally assume with advancing years a tendency to *maculata*, Dugès—Fatio's var. 'tachée ou marbrée'—which develops later into the *punctata* of the adults, this process being carried furthest in the male. Sometimes this tendency fails to assert itself, and the adults are of the bright green colour—var. *concolor*, Dugès—common, it appears, with German specimens from other localities but rather scarce

[1] F. Müller, *Verhandlungen der Naturforsch. Gesellschaft zu Basel.*

on the Kaiserstuhl. Both the young and adult females often exhibit traces of the *bilineata*, Daud.

The immigration of this species into the country has evidently taken place by way of the Jura and Bâle, and its present sporadic distribution throughout South Germany can be ascribed to its well-known sensibility to cold and damp, and not to any supposed predilection for a particular soil. The Kaiserstuhl is covered to a large extent with the alluvial Loess, and I have been informed of the occurrence of *L. viridis* on tracts of this loamy ground in other districts ; but I daresay the Sand Lizard, which thrives exceptionally well on this soil, has misled my informants. Prof. Leydig observed that *L. agilis* preferred the Keuper to the Muschelkalk, and in the Northern Palatinate the Wall Lizard is often conspicuous by its absence on metamorphic rocks, while abundant everywhere on the red sandstone ; still, in spite of this and other negative evidence, I should doubt whether this factor has influenced the distribution of *L. viridis* (Prof. Méhely, in a letter to G. A. Boulenger, thinks it *has*).

Its range in other parts of Germany is now pretty accurately determined. It is found chiefly along the Rhine (at Bingen, Rüdesheim, St. Goar, Loreley, etc.), and its Western tribu-

taries, the Nahe and Moselle ; as also on the Danube near the point where it enters Austria. In the Haardt Mountains of the Bavarian Palatinate, where an excellent authority (Dr. Noll) reports its occurrence, I have failed to detect any traces, nor have I been more successful in the course of my excursions into other parts of that country, and must certainly agree with Medicus [1] as to its extreme rarity there. Through the kindness of Mr. Basserman, of Deidesheim, I received a fine male *punctata* from that locality, which settles the question formerly raised as to its occurrence at this—again apparently isolated—point. He informs me that it is found in some numbers at two places near the town — the 'Königsbacher Wald' and the 'Waldberg.'

Several writers testify to the existence of this species near Worms ; hence I must consider my not meeting with it there as accidental : at Oberstein on the River Nahe, celebrated for its agate industry, I was equally unfortunate. This latter fact may help to support Mr. Geisenheyner's [2] supposition that it does not ascend the river beyond Münster.

The *L. viridis* of the Kaiserstuhl, though frequently of a bluish tinge about the head and

[1] *Thiere der Rheinpfalz*, 1867.
[2] *Wirbeltierfauna von Kreuznach*, 1888.

neck, is not of the true '*mento-cærulea*,' Bonap. variety, as it is found in parts of the Tyrol, Italy, etc. With typical individuals of this variety the lateral and anterior portions of the head, as well as the lower jaw, are often of a vivid green colour, whereas with specimens from the Kaiserstuhl it is precisely these parts that display the most intense blue, the throat itself being seldom thus marked. It may therefore be assumed that they are tending to attain this feature characteristic of the true *mento-cærulea*, though as yet they have not arrived at its typical development; and I should regard the green colour above referred to as the latest modification in this line of ornamentation; thus: that the blue has gradually concentrated itself on the throat, and that the head, by way of additional contrast, has reassumed its original green colour.

Similar instances, illustrating a sort of reciprocal convertibility of the colours blue and green, when employed for mere 'decorative' purposes, are exhibited by some forms of *L. muralis*—compare var. *cæruleo-ocellata*: *viridi-ocellata*—and other reptiles; sometimes the blue seems to have the priority, acquiring only by degrees an iridescent greenish lustre, which in its turn may become so persistent as to efface the original blue; in other cases the

latter colour appears of more recent origin. It is observable that the same colours alternate in an analogous manner with some birds.

Even comparatively young individuals from the Kaiserstuhl are thus marked, a circumstance which no doubt favours the transmission of this character from the male to the female. There seems to be no difficulty in assuming such a transmission to have taken place, in view of the fact that many secondary sexual characters peculiar to the one are often inherited by both sexes, and more readily if they are developed at an early age ; and in the instance of colour, which is most easily modified and transmitted, many ornaments originally confined to the male tend to reappear in the female, sometimes with the curious phenomenon of a greater or less change in tint. The *mento-cærulea* variety is certainly a local fashion, so to speak, and it deserves notice that the distinguishing blue patch on the throat is in many localities of the most ephemeral nature ; in others it is retained long after the honeymoon, and in some again the lizards are perpetually thus coloured.[1]

[1] In parts of Southern Italy I was surprised to find that *L. viridis* exhibited, even in the height of spring, no signs of blue colouring about the head ; whilst with others captured near Lake Como the blue was hardly diminished in intensity even in autumn. (The Dalmatian *viridis*—var. *major*, Blgr.—is entirely devoid of this peculiarity.)

Finally, the same feature is not rarely peculiar to the male sex, but elsewhere equally conspicuous in both (*see* de Bedriaga : *Beiträge zur Kenntnis der Lacertidenfamilie*, p. 67).

Hence the unstable character of these periodical variations in colour does not preclude the possibility of their becoming fixed under certain conditions, and it may conversely be urged that many now permanent tints may have been at a former period merely temporary.

In this category can be placed the blue of the Faraglione Lizard and other analogous varieties, to which I hope to recur later, merely noting here that the throat of the male is again the most brilliant coloured portion of the body, that of the female being much less vivid ; but in neither case does the blue appearance of the lizards entirely vanish during the summer and autumn, whereas the blue tinge occasionally suffused over the body of the common Wall Lizard is most volatile.

L. vivipara and *agilis* offer similar examples of blue colouring during the pairing season, on the throat and lower surfaces ; some Russian forms of *agilis* having, according to Bedriaga, a mark on the throat analogous to that of *L. viridis mento-cærulea*.

As the intensity of brilliant colours is generally considered to diminish if light be excluded,

the behaviour of some specimens of *L. agilis*, which I had occasion to forward a day's journey to Prof. Leydig, may be worthy of notice to illustrate that the reverse sometimes takes place. He writes:—'On opening the box several of the males were of a light green, almost phosphorescent, colouring all over (including the head and extremities), which soon, however, disappeared on their being set in a terrarium, and gave place to the usual green colour.' He connects this with a similar change in the colour of *L. viridis* recorded by Vallisnieri, and referred to in Prof. Leydig's work on the German Saurians, p. 166. Other instances of a like nature—due in all cases to the action of the chromatophores—have been observed in the Batrachia, and with them all variations of colour, whether seasonable or otherwise, are more rapidly produced and effaced.[1]

The term local, as applied to many forms of this species, is a little misleading, only a few being characteristic of distinct localities, though they do not all occur promiscuously. Passing the whole series of varieties in review, we find that the main types change as we proceed from west to east; in the former the ocellated, in the latter the longitudinally striated varieties are more prevalent, and this is curious enough, as

[1] Leydig, *Über das Blau*, etc., 1889.

other reptiles and batrachians, *Tropidonotus natrix* and *Rana esculenta* for instance, modify their type of coloration in an analogous manner.

On the Kaiserstuhl, *L. viridis* was pairing about the middle of April or later, the males in slight numerical preponderance, and I have found the eggs as early as the latter part of June, once or twice under stones, a fact which perhaps indicates (as others have already observed) that the female had carried them there for safety.

The ' voice ' of *L. viridis* consists in a hissing or rasping sound, which appears to be by no means common to all individuals, and I noticed that the few of this species and of *L. agilis* which possessed this peculiarity were males. The power of emitting sounds appears more general with the *viridis* of Trieste (Prof. Landois, cited by Eimer) : according to the last-named naturalist, *L. muralis cærulea* is equally capable of producing them, and so is the Filfola Lizard, as I can testify from experience.

In the instances which have come under my notice an examination failed to reveal any catarrhal symptoms, such as those which seem to affect some individuals of *L. muralis* when subject to sudden changes of climate. A pathological condition similar to this last is described by J. J. Tschudi in the case of *L. agilis*, but with

this notable difference, that here the lizards were found in this state, and infected two others with which they were afterwards confined.

2. *Lacerta agilis* (L.), Wolf.—The young are the first to appear in spring, namely, about the middle of March, and often pay dearly for their temerity ; they are also the last to withdraw towards the end of October. The old males leave their winter quarters towards the beginning of April, and may be observed, often still covered with earth, basking in the warm sunshine. They precede the females by about a week, as in the case of many other reptiles, batrachia, fishes, and migratory birds.

With respect to the distribution of this lizard, it is for the most part less generally diffused than *L. muralis* in the Bavarian Palatinate and Northern Elsass, and I hear that in some districts, as near Deidesheim, where both the southern forms are found, *L. agilis* is decidedly scarce. On the eastern side of the Rhine, however, it is the most widely diffused species, avoiding only the highest parts of the Black Forest, while in the lower and wooded portions of the country it is most abundant, and frequently attains large dimensions.

The extreme length usually cited is 21 cm., but, in the immediate vicinity of Karlsruhe,

specimens of 20 to 22 cm. are not uncommon, and one in my possession from a small village about five miles distant (Wörth) measures as much as 25.1 cm. This individual, a male, is otherwise interesting as possessing a distinctly-developed gular fold, a feature as a rule not marked in *L. agilis*. According to Bedriaga, the gular fold is characteristic of some Russian forms of this species, a circumstance which appears to countenance his supposition respecting the affinity of *L. agilis* with *viridis*; these Russian varieties being, as he shows, the intermediate links. I see Steindachner (*Schlangen, etc., der Galapagosinseln*), speaking of *Amblyrhynchus*, says, 'Some large specimens have a *sulcus gularis*, others have absolutely none.' The young of *L. agilis* possess a marked gular fold, which, in the same manner as that of some caudate batrachians, loses its distinctness with maturity.

During the growth of the individual the collar, which at first is even-edged, like that of *L. muralis*, becomes denticulated. It is to be observed, however, that immediately after desquamation, or with males of a bright green colour, the edges of the otherwise pigmented collar are often translucent, the green colour exhibiting an even line, as though the collar were not serrated.

It is open to question whether much stress

should be laid on cases of individual variability such as these, though they may under circumstances give a clue to generic relationships. The variability in the rows of ventral plates of certain species has likewise caused some difficulty to systematic naturalists; as also the irregularities occurring in the plates on the head. From a considerable list of such irregularities which I have tabulated,[1] it appears that (1) they occur more frequently with the male than with the female; (2) certain irregularities are more liable to occur than others, and in an analogous manner with different species of lizards.

L. agilis presents a good deal of that analogous colour variability to other species which has been so productive of errors in nomenclature by concealing true 'specific' characters, and leading naturalists to create new species or to confound the varieties of one with those of another. In fact, hardly one of its varieties can be pointed out which is not 'parallel' to others of *L. viridis* or *L. muralis*. Thus the uniform brilliant green tint, which covers in rare cases even the head,

[1] As: occipital rudimentary, often absent; internasal very variable in shape and size; between the latter and the frontonasalia a small plate often inserted; interparietal divided into small plates; two plates joined together without a division, or all plates irregular (perhaps the result of an external injury), etc.

limbs, and dorsal zone of the male,[1]—the last parts of the body to undergo this periodical change,—may be said to correspond in *L. muralis* to the var. *elegans*, Eimer, or to the var. *viridissima*, Fitz. of *L. viridis*, and has led to many false accounts of the occurrence of the latter in Germany. Another variety of *L. agilis*, not uncommon in Baden, is marked by a profusion of small black dots, greatly resembling the ordinary *L. viridis punctata*, and suggestive of several types of *L. muralis*. Other specimens are analogous to the var. *nigriventris* of *L. muralis*—a *nigriventris* form of *L. oxycephala* has also been described; another form is transversely barred with black markings, like several of *L. viridis* and *L. muralis*.

Sometimes the deceptive appearance is not permanent. Thus some males of *L. agilis*, far from obliterating in spring all traces of their usual darker markings in a glow of vivid green (as has been supposed), frequently tend to embellish and render conspicuous these designs, notably the brown dorsal stripe.[2] This is often transformed into an object of great beauty, and a considerable amount of variety is displayed

[1] Boettger, *Zool. Garten*, 1885, mentions this form of *L. agilis* as very common near Strassburg.

[2] The difference between two males thus diversely decorated is very striking:—later in the season they again resemble each other, and generally assume a bluish-grey tint.

in the arrangement even of this single feature. In many cases a broad band of white runs down the middle of it ; in others two thin white bands accompany it on each side, the vertebral zone itself being narrowed and darkened at the same time. Sometimes to the last figure a delicate row of white specks is also added along the centre of the back, which then displays three parallel white lines ; or again, the ocelli on the lateral portions each exhibit a white centre. An identical development of patterns takes place with some forms of *L. muralis*, while the analogy with *L. viridis bilineata* (or respectively *trilineata* and *quinquevittata*) is evident.[1]

Our reptiles furnish illustrations of a more general nature. For instance, even the blind-worm within its limited province of variation possesses varieties analogous to the single- or double-lined, as well as to the speckled or cross-striped forms of *L. agilis* above referred to ; and if we look still further to the Colubrine Snakes, we encounter numberless instances of one species presenting simultaneously uniformly-

[1] The particular two-lined variety of *L. viridis* above alluded to has probably not become established in more parts of Western Europe because it is here mostly confined to the female, and in such cases of sexual dimorphism the preponderance of the male element will generally prevent the young from acquiring, otherwise than temporarily, characters peculiar to the female.

coloured, spotted, longitudinally or transversely striated varieties. Another inconvenience of these 'parallel' varieties of different species is that their resemblance is sometimes taken to indicate a non-existent relationship, instead of an inherited disposition to vary along the same lines.

In the case of structure, still more than in that of coloration, the frequency of analogous variation, the repetition of identical patterns, has attracted notice, and the sum of all these phenomena resolves itself into a law of the widest applicability.[1]

To return to *L. agilis* :—local varieties are not so frequent here as with *L. muralis*. *A propos* of some protectively-coloured races of this species mentioned by Prof. Leydig, I was unable to discover those he notes as living on the Gebhardsberg, near Lake Constance ; and equally unsuccessful with the local form at the renowned Miocene deposits of Oehningen, though this was to be expected, as the sides of the road on which the adaptation to the soil was observed were quite overgrown at the time. These quarries, celebrated in their day for Schleuchzer's '*homo diluvii testis*,' and the wonderful fauna and flora described by Heer and others, have

[1] To re-quote Milne-Edwards, 'Nature is prodigal in variety, but niggard in innovation.'

been entirely covered with vegetation for the last twelve years, so that their site is nowadays only found with difficulty. They were last worked by an enterprising Swiss, who established some brick-kilns there, but at present the enthusiastic palæontologist is driven to excavate his own quarry in order to obtain a few specimens.

The individual variability of this species is considerable. In a series of males from the Kaiserstuhl the dorsal stripe was of a light brick-red colour : this, however, proved to be not the true var. *erythronotus*, Fitz., prevalent chiefly in mountainous districts of Bavaria and Northern Germany.

Passing on to isolated cases, one or two males captured at different seasons and localities were interesting, the upper surfaces and sides being of a dark gamboge colour, without any traces of green. With the female the sphere of variability is more restricted ; one type of coloration not uncommonly met with is greyish green, covered with innumerable black and white dots, and recalling the speckled male variety already alluded to. Another form is of a uniform cinnamon-colour, others again are very prettily marked with rings of reddish brown on a ground of stone-colour. The lower surfaces sometimes assume a rich yellow tinge, as with the female of *L. viridis*.

L. agilis, as well as the three other species, suffers much from the parasitic *Ixodes ricinus*. I have counted as many as forty-five of these pests on one individual, affecting mostly the throat, limbs and face.

The proportion of the sexes seems to be more equal than with *L. muralis*. The males still predominate considerably, although the females, especially towards summer, are more often seen, owing to their diminished activity.

3. *Lacerta vivipara*, Jacq.—Of this lizard comparatively few Baden specimens have passed through my hands, and they differed little in their coloration from others found on the Scotch moors or in England. Though exhibiting a good deal of slight individual variability, the only distinct variety in this part of Germany which has attracted notice is the light-coloured *L. montana*, Mikan, reported as occurring at Rippoldsau, in the Schwarzwald. I made an excursion for the purpose of obtaining adult specimens of this form, but the weather proved unfavourable, and the few young I succeeded in capturing resembled the typical form.

The viviparous lizard appears generally distributed throughout the Black Forest region (*i.e.*, as far north as the River Alb, which flows in its lower course within a mile of Karlsruhe),

continuing its range, after a considerable break, in the Odenwald. It is found plentifully all round Baden-Baden (Teufelsmühle, Herrenwies, Hornisgrinde, Wildsee), as well as further south, in the neighbourhood of Freiburg (Feldberg, etc.) ; further eastwards its range extends, I believe, as far as Donaueschingen. On the Kaiserstuhl, and in all districts where the vine is cultivated, this species is replaced by *L. agilis*, which shows less antipathy for human proximity, and in Baden it never seems to frequent moist low-lying districts as in other parts of Germany and elsewhere. In the hilly country of the Southern Palatinate this species is also found, at least if I may rely on the statement of an exceptionally intelligent peasant, who surprised me by describing accurately all the native reptiles, and, most of all, by designating *L. muralis* as the ' Italian ' lizard.

In point of size this species is smaller than *L. agilis*, and of more delicate build. The extreme length may be put down to 17 cm., very few, even full-grown specimens, attaining more than 16 cm.

Being found at altitudes where snow lies for six months in the year, this lizard must necessarily be of very hardy constitution, and in the Schwarzwald it may be seen up to the end of October on ground already covered with

hoar frost. It often emerges as early as March.

Melanic individuals of this species, described as *L. nigra* by Wolf, are not uncommon in the Alps. Both here and in the case of dark specimens of the blind-worm some evidence is adduced to show that this colour has resulted from moisture of the surroundings. It is questionable, on the other hand, whether 'moisture' can be the *vera causa* of the general phenomenon of sombre tints, so frequent with widely-separated classes of Alpine animals, and of which *L. nigra* is an illustration.[1] Eimer has suggested, by way of clearing the difficulty, the inherited effects of the direct action of a 'former dampness' in the atmosphere.[2] In the present colour of the embryo of the viviparous lizard—'retained' by the melanic adults—he is disposed to recognize that of its ancestors in the post-glacial period.[3] The majority of *L. nigra* appear to be females, and this sex is always more

[1] Perhaps there may be some such connexion as that implied. Thus there are, I believe, two distinct melanic varieties of the Rattlesnake in North America, one *Crotalophorus Kirtlandi*, inhabiting swampy districts, while the other is confined to portions of the White Mountains.

[2] *Variieren der Mauereidechse*, p. 200.

[3] This explanation can hardly hold good with some higher Alpine forms, such as the black variety of the squirrel. Perhaps here the Ice Age itself favoured, indirectly, the production of black colouring as a means of retaining warmth.

disposed to retain the ancestral coloration displayed by the young. Still, various facts militate against Eimer's theory.

And, speaking of reptiles in general, we are unable in the vast majority of cases to account for the frequent appearance of melanism. We see that there are many grades of this condition, from a scarcely appreciable difference in the normal coloration to complete blackness, and that all these gradations can be displayed by one species; and further, that while most species exhibit some individual variability of this character, the tendency has in others led to the production of melanotic varieties, possessing often a local preponderance over the typical form. It also becomes evident that melanism spreads over the body in different ways, and is induced or favoured by various influences.

Doubtless the most intelligible of dark-coloured varieties are those formed through adaptation to the environment (such as many varieties of the Wall Lizard on the islands and continent of Italy), for there is no difficulty in understanding how on black volcanic ground, for instance, a dark race should have been gradually preserved through the action of natural selection. But in other melanic island forms of the same lizard (such as *L. Lilfordi*) the colour can hardly be protective. I venture to

think undue importance has in these cases again been attached to 'moisture,' whose effects must necessarily be either universal or *nil*.

In some more isolated instances of melanism among European *Lacertidæ*, the dark colour may possibly have been produced by change of food, or some other physiological derangement, but it appears to have spread over the body by the same method as in the cases above alluded to, that is, by the gradual darkening of the ground-tint, and not through the broadening out and fusion of the original black markings.[1]

The var. *nigriventris* of *L. muralis* may be cited as an example of partial melanism, for here, as the name indicates, the dark colour is confined to the lower parts. In tracing out its course of development, we see that black is first visible in the shape of minute spots on the throat, each scale of the collar being often prettily marked with a black centre-piece. In Germany it is frequently found in this stage of development, and sometimes also in the next (transitional) stage, which consists in the entire under surfaces being thus covered with minute spots, which

[1] Thus Gachet's black *L. viridis* is not an 'advanced' *maculata*, if we may judge by the words :—'Après avoir été plongé pendant plusieurs jours dans l'alcool, . . . les grosses taches noires, dont on ne voyait que des traces, sont devenues très-apparentes' (*Act. d. l. Soc. Linn. de Bordeaux*, 1833, p. 168).

afterwards, in the true *nigriventris*, Bonap., expand to the exclusion of all other colouring. It is noticeable that, in localities where this variety has become dominant, the first gradation of colour-development has been abbreviated, and the young already display the intermediate stage, the adults passing on to the extreme *nigriventris*. The facts of the distribution of this form—it occurs in patches, as it were, on the mainland and islands of Italy, sometimes exclusively, sometimes promiscuously amongst other varieties—prove that we cannot turn to the all-explaining ' external influences ' for the cause of this coloration. As the initial tendency is on the part of the male, and an identical development of colour has taken place with the var. *rubriventris*, where again the throat is the first part of the body to be ' ornamented,' there is reason to believe that the black here, unornamental as it appears, may be due to sexual selection. To this subject I hope later to refer at more length, and will here merely remark that I am using the term in the sense attached to it by Wallace, as it appears to me most improbable that in different localities the same variety of one species should have been formed through the action of female choice.

With *Anguis fragilis*, dark-coloured individuals are occasionally met with, and here, in as

many cases as have come under my notice, the black pigment is concentrated on the under surfaces, diminishing towards the throat and tail (only in one instance the tail-end, above and below, was coloured black). The incipient melanism proceeds thence up the lateral portions, each scale in its turn receiving a small black central spot, till it reaches the darker zones which usually border the upper parts. Its progress may therefore be quoted as an exemplification of the 'infero-superior' development, mentioned by Prof. Eimer in another work.[1]

Another process of colour-development, the 'postero-anterior,' is illustrated in the case of the melanic Ringed Snake, *Tropidonotus natrix*, var. *minax*, Bonap., where the black colour advances equally along both surfaces, 'supra et subtus ater, concolor,' as it is described.[2]

In the '*carbonarius*' variety of *Zamenis viridiflavus*, it is developed on the upper parts only: 'supra ater, concolor, subtus griseus. . . .'

In the two last-mentioned cases the dark colour does not, as with *L. Lilfordi*, diminish in intensity if the specimen be preserved in alcohol, a fact which may be of importance as bearing on its origin; nor can it be attributed to reversion,

[1] *Organic Evolution*, p. 431. (Translation by Cunningham.)
[2] Schreiber, *Herpetologia Europea*.

as in the case of *L. vivipara nigra*. It seems rather to be a recently-acquired coloration. With *Zamenis viridiflavus* the black, which may be regarded as an accentuation of the normal brownish tint, is attained by a series of imperceptible transitions, the speckled immature markings—*cf.* the ontogeny of the Blackbird—lingering longest about the head and neck. Viewed side by side, an adult '*carbonarius*' and a young individual of the same species offer an interesting study for the evolutionist. The tendency exhibited by many Colubrine Snakes to uniformity of coloration, which has led to the abolition of the brighter immature patterns and markings, has here and in some analogous instances exceeded what would seem to have been its original purpose. It may be doubted whether those apparent advantages are now gained which a uniform light or dark brown tint would have conferred, and it remains a matter of speculation what the object of this innovation may be. I am disinclined to call to aid the cumulative effects of female preferences in spite of some evidence favouring this view,[1] for it can hardly be supposed that a simultane-

[1] Poulton, *Colours of Animals*, p. 303. It has also struck me that the '*carbonarius*' variety of this species is more lively than the older form, but its wariness may be due to the instinctive knowledge that the black colour renders it more conspicuous.

ous and almost identical change of æsthetic tastes should be taking place in the females of several distinct species. At all events, the *carbonarius* variety, whatever its origin, appears to possess great vigour and fertility, perhaps because it is most pronounced in the oldest males, who exert a preponderating influence on the colour-development of the race,—or perhaps by virtue of what Huxley terms its 'unfair advantage,' as a newly-arisen variety, over the normal descendants.

These few cases of melanism will serve to show that the influences to which this is due with reptiles are no less obscure than with other animals (witness the correspondence in the *Entomologist*, 1893) ; in fact, it remains a dark matter in every sense for those who are not satisfied with having determined, by the aid of the microscope, the immediate physiological cause of the discoloration. It is certainly not so often accompanied by pathological symptoms as albinism, whether innate or acquired, indicating, indeed, rather a plethoric than an anæmic condition of the system, and therefore not endangering the visual organs. The only instance in Herpetology of melanism occurring, possibly, as a disease which has come to my notice was a *Triton alpestris*, captured near Dieppe, whose lower surfaces were marked by

dark brown patches, akin, perhaps, to the human melanosis. Something like this has been recorded with *Bufo vulgaris*.

4. *Lacerta muralis*, Laur.—An accurate account of the peculiar distribution of *L. muralis* in this part of South Germany was published thirty years ago.[1] As this account is quoted in most works on the subject, it will be unnecessary to give it here *in extenso*, but it suggests a fact worth noticing which has not, I think, been mentioned hitherto.

It has been assumed that the immigration of this species into this country has taken place *viâ* the gap between the Jura and Vosges ranges (a route by which many other southern forms have entered Germany), but, on comparing its actual distribution with a map, considerable difficulties present themselves. In the first place, the non-occurrence of *L. muralis* on the sunny slopes of the Rhine valley proper, and in other warm parts of the country (on the Kaiserstuhl and southern incline of the Schwarzwald, for instance), appears unaccountable. Instead of this, it is found high up in the Black Forest at several points over 700 metres above sea-level, in cold and exposed situations. Further,

[1] Dr. Paulus : *Verein für Vaterländ, Naturkunde in Würtemberg*, 1857.

it is curious that *L. muralis* should be absent in localities where other species, which have followed the above-mentioned line of immigration, are found. There is also, thirdly, a considerable difference in size and colouring and, what is more important, in the method of distribution, between the *L. muralis* of Baden and that of the Bavarian Palatinate, which could hardly be so marked if both had penetrated into Germany from this same source.

It may be asked whether this species has not, following the course of the Danube, descended further westwards from the central plateau of the Black Forest along the many small rivers to whose banks it is at present, curious to say, almost exclusively confined. Certainly this would presuppose its former existence in a tract where it no longer occurs, and hence possibly a change of climate within a geologically recent period in these comparatively bleak regions. Still, this hypothesis appears the less improbable as other species have unquestionably immigrated by this line, and also in view of the fact that *L. muralis*, like *L. viridis*, occurs on the Danube east of the Swabian and Bavarian table-lands.[1] Its peculiarly restricted distribu-

[1] This point need not have been reached exclusively from Lower Austria but also from North Italy. For *L. muralis* has been observed to cross the Brenner Pass, and may accordingly have

tion may have remained unchanged on account of a diminished ratio of increase in this less congenial climate; besides, the 'stationary disposition' characteristic of the *Lacertidæ* will prevent any further emigration until the district occupied has become over-populated. And there are indications of such local over-population. Thus it may be observed that from Gernsbach in the Murg valley (where this species is abundant) it is spreading across the narrow watershed into the valley of the Oos, in which Baden-Baden lies; but the transmigration is as yet incomplete, for it appears to occur only on the Gernsbach side of the Oos valley.

As regards the distribution of this species in the Grand Duchy, my experience is quite confirmatory of the account above referred to. It is found on several of the old castles in the Black Forest, but only on such as are near the rivers mentioned by Dr. Paulus (*l.c.*). At Heidelberg I never observed it, and I see Bedriaga notes it has become rarer there of late years.[1] Near the Katzenbuckel mountain,

come *via* the valley of the Inn (H. Krauss, *Verhandl. Zool. Bot. Ges. Vienna*, 1873), whilst another author reports its occurrence in the higher course of the same river,—at Pfunds and Landeck,—which would imply an emigration from the south, parallel to that over the Brenner, by way of the Vintschgau. (I never observed it at either of these localities.)

[1] A friend writes to say that he noticed it on the North bank of the Neckar in 1891.

further up the Neckar, I could not detect it, nor yet at another point in the south of the country, equally interesting to geologists, the Hohentwiel near Constance, where it is stated to occur.

In the Bavarian Palatinate *L. muralis* is considered the commonest lizard, being found both in the mountainous parts and in the towns and vineyards of the Rhine valley. In the northern districts—near the Donnersberg, for instance—it seemed scarcer, while on all the romantic castles of the Central and Southern Palatinate—at Dahn, Trifels, Madenburg, Lindelbrunn, Drachenfels, Fleckenstein (of the Niebelungenlied), Weglenburg—it is extremely abundant. On the ramparts of the old fortress of Landau it may be seen in numbers, and in the lanes throughout the whole country it is found promiscuously intermingled with *L. agilis*. In Elsass it is no doubt also universally distributed. I observed it on the fortifications of Weissenburg,[1] and along the fine road to Klimbach.

Specimens from Baden seldom exceed 17 centimetres in length. The males are generally speckled black on dark brown ground, and display a slight greenish iridescence in the light.

[1] A female specimen from this locality was of a uniform black colour (above) when caught, but in alcohol the markings, revealing the usual characteristics of this race, came out more strongly.

The females incline more to the immature longitudinal striation ; one or two specimens, indeed, exhibit four unbroken parallel lines along the back. The lower surfaces are usually of a pure white, or delicate pink colour, in rare cases (in the male sex) assuming a more coppery tint. Throat sometimes, as with *L. agilis*, with black markings. Palatinate specimens are of greater size and colour-variability than those from Baden. Males with black-spotted throats become more numerous, and the under parts are frequently of a bright orange, which in the corresponding female form turns to a brick-dust colour. It may be observed that with German individuals of this variety the blue spots on the outer ventrals are, as a rule, inconspicuously small, and of greenish appearance, suggesting a sort of compensation on the part of Nature for the additional outlay of red colouring. The var. *flaviventris* is found, I believe, in other parts of Germany (though I never observed it in Baden or the Palatinate) : elsewhere it has established itself to the exclusion of nearly all other forms.

It is in the southern sub-species *tiliguerta* that we meet with the best instances of the great colour-plasticity which has given this species the designation of ' a cycle of varieties.' The colouring is largely influenced by environment. This

is natural, for, being a prey to so many enemies, the capacity for assimilating its colour to the surroundings is of paramount importance, although its mental and physical abilities are of no mean order. Hence we find many races of this species possessing protective coloration to so marked a degree as to have effaced the original markings entirely. Thus Eimer has shown that on some recent lava-fields near Mount Ætna a complete adaptation to the surroundings has taken place within the short space of 200 years, a circumstance which speaks highly for the capacities of this species, notwithstanding the facility with which colour, 'that most fleeting of characters,' is modified by Natural Selection. All around Vesuvius, and in similar localities, the lizards have assumed equally dark tints. Some specimens from near Ottajano, on Monte Somma, exhibited no tracings of the usual markings. As a *pendant* to this, I was interested to notice, in 1888, an almost uniform greyish-white variety of *L. muralis* on the light-coloured rocks near Amalfi. In strong alcohol the markings both of the Vesuvian and Amalfi lizards begin to appear, showing that they belong to the usual Neapolitan type. A pretty instance of this sort of local variety I also observed near the Narbonne. Along a road outside the town, the adult *L. muralis* harmon-

ized perfectly in colour with the yellowish soil, whereas the young were much more variable in colour. There was certainly every reason for this precaution, to judge by several *Zamenis viridiflavus* and *Cœlopeltis lacertina* which frequented the same spot. Examples of such positively protective coloration will occur to every one who has paid attention to this species in its native haunts, though it is not, as a rule, so pronounced as in the instances given. Thus, more recently, in the Lipari Islands, I have come across races of this species on older lavas, or beds of white pumice partially covered with vegetation, where the adaptation was not so complete, though still recognizable. It has also struck me that the very green colour of *L. muralis* in the fields of Lombardy may be thus explained.

The class comprising most varieties of *L. muralis* (from this point of view) contains those whose colour is not adapted to any special environment. It is protective only in a negative sense, inasmuch as a still brighter coloration would render the lizards too conspicuous.[1]

[1] The colours of European *Lacertidæ* can hardly be termed aggressive. For capturing their prey they are dependent alone on their agility ; and though certain forms of coloration may ' enable them to creep upon their prey ' (Poulton) more easily, these have been developed solely, I venture to think, as a protection from enemies.

Under this denomination may be included most varieties of this species.

There is yet a third class containing some island forms of this species (*L. filfolensis*, etc.), whose colour cannot, I think, be called protective in any sense of the word. Owing to the absence of enemies, the equilibrium between competing species is in these localities no longer preserved, and these remarkably divergent forms have accordingly been developed free from the restraint of Natural Selection. That they should resemble each other to a certain extent is not more than we should expect, considering their common origin, and the inherited tendency to analogous variability, while it is noticeable that the main points of difference are such as exist between the secondary sexual characters. [There are many islets in the Mediterranean on which the lizards are of necessity protectively coloured, fewer in number, and, if possible, more shy than on the mainland, but this is due to the number of enemies, chiefly Kestrels, of which the lizards must constitute the chief diet.]

Of course, such a classification can possess no systematic value, being founded on no permanent characters, though it has its interest from an economical point of view.

Other varieties whose coloration has been

influenced by the direct action of external conditions, would form a class by themselves. Of *L. muralis* some melanic varieties, if their colour had actually resulted from moisture of the surroundings or other physical causes, would serve as examples; examples of other species are given by Koch (*Formen, etc., der Ecaudaten Batrachier*), or M. Wagner (*Migrationstheorie*). Colour-variation of this description will generally be correlated with structural differences. A hypothetical illustration: if a variety of *Proteus anguineus* were formed no longer inhabiting dark caves, the change in colour thereby entailed would doubtless be accompanied by modifications of structure.

L. muralis is generally seen in Baden towards the middle of April, but the time of its appearance is regulated by the state of the weather. My earliest note for the Bavarian Palatinate is 19th March, when I observed one male near Birkenhördt, and it has been seen as early as 1st March near Kreuznach. Both these dates are exceptional. At the Laacher See, in the Eifel, which I recommend to naturalists of all denominations, only two males were visible on a warm 4th April. Still, it seems less susceptible to cold than *L. viridis*. I recollect seeing several young of this species at Fontainebleau on a bleak October day, and in South Tyrol and Italy it

may be observed sunning itself on warm stones surrounded by snow.

It occurs also at considerable altitudes. Thus it follows the Stelvio pass road a long way above Bormio. J. von Tschudi gives 3800 metres as the highest point of its occurrence.

II. Fam. Scincidæ

Anguis fragilis, L.—There is a considerable fluctuation in the numbers of this species (as with some other reptiles) from year to year, dependent, perhaps, on whether the season has been favourable to the production and growth of the young. But, on the whole, a steady decrease has been perceptible up to the spring of 1889, notably near Karlsruhe, where it was formerly common enough.

I have come across it fairly abundantly on the neighbouring hills, in the wooded parts, as well as more particularly in the large sandstone quarries,—where it can often be discovered under the same stone with a *Coronella lævis* or *Tropidonotus natrix*,—but never in the actual Rhine woods. Near Baden-Baden it may be seen in great numbers, and, in fact, throughout the whole Black Forest region and on the Kaiserstuhl. In the Bavarian Palatinate it appears no less generally distributed, showing,

however, a decided preference for the hilly districts, though it also occurs in the plain directly opposite Karlsruhe.

Full-sized individuals are rarely met with, probably owing to the wholesale destruction which this species undergoes. The peasants regard it with suspicion and cherish the notion that it is liable to be swallowed by the grazing cattle, thereby causing their death ; numbers are also annually mowed to pieces during the haymaking or trodden under foot along the country lanes, where they have an unfortunate knack of straying :—besides these extraordinary casualties, they fall an easy prey to natural enemies by reason of their helplessness. Hence the obscure tints which harmonize admirably, in a *general* [1] way, with the surroundings. But within this restricted sphere of variability there is so much individual variation that it has been said that no two of these species can be found coloured alike.

The upper surfaces of Baden specimens rarely exhibit any decided lines or vertical markings,

[1] Of more *specialized* protective resemblance in a species allied to this, a curious instance is given by J. von Fischer. Speaking of the Skink, he says :—' The wonderful similarity in the coloration of its head to the surrounding sand [the other parts of the body being described as varying in colour] renders it extremely difficult to distinguish the heads peering out of the sand.'

being usually of uniform shades varying between iron-grey and dark brown, sometimes with a rich coppery iridescence. Lower surfaces grey or of a reddish hue,—throat sometimes almost white,—and the black colouring of these parts, characteristic of the young, is here almost entirely confined to the females, and of comparatively rare occurrence. This sex is also more inclined to retain the black dorsal stripe of the young *Anguis lineata*, which remains most pronounced, like other immature markings, in the anterior portions of the animal. I obtained two specimens of a pretty variety near the Donnersberg, in the Northern Palatinate : back of a uniform stone-colour, sides pink coral, down the centre of under surfaces a thin black stripe. In the Alps, both black and bluish coloration of the lower parts is much more frequent, though I have never seen the var. *cæruleoventris*—of a ' light sky-blue colour ' —described by Mr. Geisenheyner.[1] With specimens in alcohol this effect is often produced by the black pigment shining through the opaque medium of the loosened epidermis.

The *cyaneopunctata* form, mentioned by the same author, occurs also in Baden, but not, apparently, in such abundance as at Kreuznach, and in all the specimens I have examined the

[1] *Wirbeltierfauna von Kreuznach*, 1888.

characteristic blue spots are not, as elsewhere, disposed to form a longitudinal stripe down the centre of the back. They are indiscriminately scattered over the back, perhaps more thickly towards the head, each occupying half a scale or less. This peculiarity seems hereabouts to be confined to adults, and Mr. Haendel, who has paid special attention to this point, tells me that the majority are of female sex. The origin of this coloration can hardly be due to any external cause, such as abrasion.[1]

Order III.—Ophidia

I. Fam. Viperidæ

1. *Vipera berus*, L.—The Smooth Snake, *Coronella lævis*, is responsible for many of the reports of the frequency of adders in some parts of the country. Its metallic coppery hue—the German popular ' Kupfernatter ' applies therefore equally to both,—as well as its ferocity in resenting attacks, are no doubt accountable for this confusion.

On the whole, I should call this species decidedly scarce (in comparison to other countries) in Baden, having not once met with

[1] Kirschbaum (*Reptilien, etc., von Nassau*) thinks it is connected with the impending desquamation.

it, even in the most suitable localities. Nüsslin[1] states that it is confined to the Black Forest with the river Murg as the northern boundary of its range, and he mentions the occurrence of the var. *prester* at Herrenwies, near Baden-Baden.[2] At this latter place many claim to have observed it, but my belief has received a severe shock since a friend has written to say that after much trouble he succeeded in obtaining a 'local' adder, which proved to be merely a blind-worm. I have myself spent several afternoons in looking for it on the rocks above the town, where it is said to be numerous.

Towards the eastern side of the Schwarzwald this species becomes more common, being reported as very frequent in the Swabian Hills; whereas in the entire central Rhine district it is referred to as scarce by all who have paid attention to this point. In the Bavarian Palatinate its existence has not yet been authenticated, though I suspect it will be found in the south.

I should not attribute its absence in this part of Germany (as has been done) to the mildness

[1] In *Grosherzogthum Baden*, 1883.

[2] A local paper recorded the capture of a pair in July 1887, near Weinheim, as a great rarity in that district. I note this because more recently Blum states that the north of the Grand Duchy is entirely exempt from this species. Of course this may again be the result of an error of identification.

of the climate, for its distribution appears to me to have been determined by social rather than by physical causes, *i.e.*, that it has been less successful in its combat with other species than with the conditions of Nature.

The colouring of this class of ophidians has been less influenced than that of others by the effects of 'age, sex, season and locality'—terms that are too often called into requisition to assist in explaining difficulties. Thus there is little modification in colour during the growth of the individual, the adults remaining almost as brightly-coloured as the young. Relying entirely on its venom for self-defence, it has no need of positive protective colouring, as has been maintained, and it is pure chance if its tints are found to harmonize with the surroundings. This is sufficiently shown by the fact that hardly two are coloured alike, even out of the same brood. I have also not remarked any seasonal changes of colour in this species (after desquamation the hues are naturally more vivid) ; nor are there pronounced sexual differences in colour, though certain shades are more common to one sex.

Its varieties are unlimited, and have given rise to a great deal of confusion—witness many Italian herpetological works—between this species and *V. aspis*. There is much analagous,

or parallel, colour-variation between these two species, and they are further structurally so bound together by a series of intermediate types that, according to some of the best authorities, no distinct line of demarcation can be drawn between them.

The red *Coluber chersea*, L. occurs in the Grand Duchy, according to Weber,[1] as well as in other parts of Southern Germany, and I was interested to notice that it is accredited here, as in parts of England, with greater irritability than the other forms. It is noticeable that this colour is supposed, in other creatures also, to indicate the same irascible temperament.

The black variety has been held to be peculiar to the female sex, probably only because these exceed the males in numbers, and are less agile in escaping detection. It is found sporadically throughout the whole range of *V. berus*, but in greatest abundance in mountainous districts, and has been known to produce young of the normal colour.

2. *Vipera aspis*, L.—The existence of this species in the extreme south of the Grand Duchy—in the neighbourhood of Thiengen—has been proved by Weber in 1871, and more recently again (see *Zoologischer Garten*, 1890, p. 265).

[1] *Über die im Grossh. Baden Vork. Schlangen*, 1855.

This point has doubtless been reached from the Swiss Jura by way of Bâle, in the neighbourhood of which town it sometimes occurs.

In Western Germany it is cited from one district of Lothringen.

3. *Vipera ammodytes*, L.—A single specimen of this viper was caught, I think, about 1830, in Southern Bavaria, and served for the time to found its claims as a German species. These claims, however, have been shown to be null and void.[1]

The curious little horn on the head of this snake has been compared to the wattles of gallinaceous birds. Its object is not clear. Similar protuberances are found on the heads of various other snakes, not the least remarkable being the double projection on that of the Cerastes Viper, which, to judge by the shape of the head in other sand-inhabiting reptiles, would seem to be of considerable inconvenience to its owner. But its accompanying advantages must more than counterbalance this, and three or four uses have been assigned to it.

It is a significant fact that a considerable amount of variety is displayed in the form of these excrescences, and that among the indivi-

[1] Leydig, *Einheimische Schlangen*, 1883, p. 31.

duals of one species this characteristic sign is not constant in size, that of *ammodytes*, for instance, being often no larger than that of *V. aspis*. It may be asked how the acquisition of the slight nasal projection in this last named—which looks like a transitional stage—can have been of sufficient value, in its incipient stages, to have been 'selected' and transmitted. But the same might be asked of the rattle of the Rattlesnake, developed out of as unpromising an object as an indurated tail-tip.[1]

It would be interesting from the same point of view to follow up the various steps whereby an apparatus so perfected as the poison glands has been formed ; to trace how the venomous saliva has been gradually accumulated, intensified, and collocated into its proper receptacle, and to what is due the initial differentiation between the venomous Colubrine and the Viperine Snakes. Working independently, as it were, they have certainly hit upon one of the most peculiar contrivances to prolong specific existence. But the high specialization of these structures renders it difficult to find the indications of their origin. Dr. Leydig relates how on exhibiting a *Coronella lævis* to some students at Tübingen, the animal inflicted a bite on his

[1] Darwin, *Expression of the Emotions*, p. 109 *seq.* The process is well described by Garman, *Evolution of the Rattlesnake.*

wrist, which caused his whole arm to swell up for some days ; similar observations have lately appeared in the *Zoologist* and elsewhere,[1] and the subject is deserving of the attention of ophiologists.

II. Fam. Colubridæ

1. *Tropidonotus natrix*, L.—In this species the tendency to uniformity of colouring, perhaps for protective purposes, is more marked than in many Colubrine Snakes. Some Baden specimens have scarcely any traces left of the original darker markings, and become, with increasing age, either dark grey or brownish ; a process which is carried still further by some southern forms.

To produce this effect, the conspicuous collar-mark, which has played a part in many fables, must also be effaced, and this is brought about by an interesting method. The original white or yellow colour gradually assumes a dirtier tint, resembling a thin coating of brown dust, and becomes less sharply defined in proportion as the darker patches encroach upon it from all

[1] Camerano quotes authority for the toxic properties of *Cælopeltis monspessulana*, and a paper recently published points, presumably, to the same conclusion (Phisalix et Bertrand : *Sur la présence des glandes vénimeuses chez la couleuvre, etc.*).

sides. These in their turn melt imperceptibly into the brown or grey colour of the head and back, and it is noticeable that the black border itself is often less intensely coloured with adults than with the young. Sometimes one side of the collar remains almost white, while the other has already nearly faded away.

To judge by a considerable selection of heads showing these transitional stages, I gather that the process is in all cases identical. In some Italian specimens all traces of the collar have vanished ; with others, from Baden, they are still to be recognized, though merged into the surrounding colouring (two or three which were kept alive in the Karlsruhe Zoological Gardens had entirely lost this mark, as well as the darker spots on the back) ; and I see that a *Tropidonotus natrix* caught on the island of Oesel, off the Baltic provinces, was also without the yellow patch on the neck.[1] The fact that this particular ' direction of variation ' should be followed in localities so far separated obtains significance when regarded as a means of attaining the desired uniformity of tints.

On the other hand, the symmetrical rows of spots characteristic of the young are not always disposed to become less conspicuous. On the

[1] Lœwis, *Reptilien Kur-Liv- und Esthlands.*

contrary, they frequently, by fusing together, develop either into transverse or longitudinal lines, which give the animal a marked appearance, and have led to the formation of distinct varieties. Owing to their less stationary habits, the varieties of snakes are locally not so restricted as those of lizards often are, but, on the whole, it may be said that the former set of varieties of *natrix* are more common to the west of Europe, the latter to the east.

I have not been able to determine satisfactorily the existence of the melanic var. *minax*, Bonap. within the Grand Duchy. It is found in the Alps, though not very abundantly (I have only come across it three times), and in Bavaria, but not, I believe, elsewhere in Germany ; and the many reports of ' black ' snakes in Baden are perhaps due to the number of dark grey or brownish specimens.

Like the Blind-worm, this species fluctuates in numbers from year to year, and I note the year 1888 as one in which it was exceptionally common. It is found in all parts of the country, and is not rare near the town of Karlsruhe (Wildpark, Durlacherwald, Beiertheim, etc.). On 30th March 1884—an early date—I observed one lying on the ground in the neighbouring Hardwald beside a large hedgehog ; both animals were torpid with the cold. *T. natrix*

seems to be more susceptible than the Smooth Snake to sudden changes of temperature, and when overtaken by violent thunderstorms in summer, during which the thermometer often falls several degrees a minute, it may be seen lying drowsy and benumbed by the roadside. I have found this species common in the Rhine woods (Maxau, Forchheim, Neureuth, Eggenstein), as well as on the hills round Karlsruhe (Durlach, Steinbach, etc.), on the Kaiserstuhl and the Black Forest. In Elsass and the Bavarian Palatinate I have met with it once or twice—at Dahn, Weissenburg, and several times near Wörth ; but it is considered to be scarcer now than formerly, notably in the northern parts. The same decrease is reported from other parts of Germany, and has been connected with its oviparous habits, which do not allow it the amount of emancipation required—or at all events desired—nowadays.

2. *Tropidonotus tessellatus*, Laur.—This species occurs in so many countries around Baden that it may turn up somewhere within the Grand Duchy. It was first discovered in Germany, near Ems, in 1819, by von Heyden, who considered it to have been introduced by the

[1] Fatio similarly thus accounts for the presence of this and the following species in certain portions of Switzerland.

Romans, like the Æsculap Snake. Since then it has been obtained at several localities in the Middle Rhine district: St. Goar, Boppard, Loreley; and most recently in the valley of the Moselle. In 1871 it was first mentioned from the neighbourhood of Kreuznach, where it appears to be sufficiently abundant, frequenting chiefly those parts of the river where hot springs issue from the ground, and living on fish. In the countries to the south and east of Baden it is found nowhere nearer than Southern Switzerland, Tyrol, Lower Austria, and Bohemia.

Apart from the varieties in markings, we can distinguish here, as with *T. natrix*, two forms characterized by their respectively brown or grey predominating tints on the upper surfaces. The grey form, at a distance, resembles deceptively *T. natrix*, and these two species, besides presenting much analogous variation in colour—thus *tessellatus* is also liable to lose the collar-mark (*Elaphis flavescens* similarly) and to follow the same process as *natrix* in the gradual darkening of the fundamental tint,—have much in common in their habits and mode of life.

The young of this species are coloured singularly like the Viper, and a specimen of the allied *viperinus* now before me is not to be

distinguished from it, in its white and black pattern. The resemblance, however, is not mimetic, but purely 'accidental,' as the adults do not possess it in so pronounced a degree.

3. *Zamenis viridiflavus*, Laur.—This is one of the most doubtful German species. Silesia on the east, and the Moselle valley on the west, are the only localities where its occurrence has been *suspected*.

4. *Elaphis flavescens*, Gmel.—I will briefly sum up the evidence [1] favouring the claims of this species to be considered indigenous to Baden:—(1) In 1782 Dr. Sander wrote to the *Naturforscher* that two 'Tree Snakes' had been captured near St. Blasien, in the Southern Schwarzwald, and were preserved there. Leydig is disposed to regard this as conclusive; however, I have myself seen *T. natrix* climbing trees, and have heard other accounts to that effect. (2) Von Heyden observed this species near Baden-Baden (presumably about 1820). (3) Dr. Weber, a meritorious herpetologist, cites a letter from a certain Dr. Stocker (1855), according to whom *Elaphis flavescens* occurs on the Jura, towards the western extremity of Lake

[1] As given in Leydig, *Einheimische Schlangen*, p. 11.

Constance; and also a newspaper report (1871), stating that a large individual of this species was killed near Pforzheim, about 20 miles east of Karlsruhe.

Is this evidence sufficient? It is uncertain whether Dr. Weber himself saw any specimens, and undoubtedly the strongest testimony is that of von Heyden, who, one would suppose, can hardly have been mistaken. The specimen in the museum of Karlsruhe, labelled *E. flavescens* var. *nigra*, is only the melanic form of the preceding (*Anguis Æsculapii niger*, Aldrov.=*Z. viridiflavus* var. *carbonarius*), and doubtless not of indigenous origin.

As regards the wider distribution of *Elaphis flavescens*, Schlangenbad (whence the name) is the classical locality in Germany. It was discovered here in 1817 by von Heyden, and is still numerous, a considerable trade being carried on by the country people in supplying this snake to visitors. In the valley of the Moselle its occurrence is not yet proved; it is stated to follow the Danube as far north as Passau, though there is no notice of its existence there since 1865. Reports of its capture in other parts of Germany are referred to escaped specimens, or to errors of identification.

It was the opinion of von Heyden that the Æsculap Snake has been imported by the

Romans to their thermal stations ; at the same time, on this assumption, its absence in similar localities remains unexplained. There is further a note [1] to the effect that some semi-fossilized vertebræ of a snake, found in Franconia, have been attributed by Prof. Nehring to this species, which would imply its former more extensive range.

This snake varies individually in temperament, some being unusually pacific, while others are unruly and boisterous. The same might be said of *Coronella austriaca*, *Zamenis viridiflavus* and many others, including *Pelias berus*, which, according to several writers, is occasionally of most complacent disposition. Amongst lizards a similar diversity prevails : Bell 'could not induce' *L. viridis* to bite his hand, whereas other individuals of this lizard are most violent and irritable without any apparent cause ; *L. muralis* also often refuses to give vent to those outbursts of passion to which it is so prone. Individual variability in character among this class of animals is familiar enough. All observers studying one particular species are struck by the idiosyncrasies of separate individuals, and forced to notice differences in their natures which are overlooked by the uninitiated. Even with reptiles and amphibians, within

[1] Leydig, *Thiere der Rhön*, etc., p. 114.

their less complex sphere of action and passion, instances might be multiplied to demonstrate that '*quot homines, tot sententiæ*' is hardly less applicable than with us.[1]

The nervous susceptibility appears subject to an equal variability. This is admirably illustrated in the case of *Hyla arborea*, some individuals of which are more liable to sudden changes of colouring than others. A singular and somewhat analogous instance with *Rana arvalis* is given by Leydig.[2] Every one who has kept numbers of one species under confinement has observed that the single individuals differ in their powers of enduring cold, heat, etc. It deserves notice, too, that the locality seems in some degree, as with many higher animals, to influence the psychological constitution. Thus, according to Selys-Longchamps, the northern *Lacerta muralis* is less susceptible to the sound of music than the Italian race—a statement which

[1] Domestication gradually weans all animals from that instinctive rigidity of habit imposed by the struggle for existence. Still, there is no lack of records of wild animals displaying individual differences in the matter of intelligence, choice of food, etc., inexplicable sympathies and antipathies, abnormal freaks and fancies. One of the most extraordinary aberrations of this kind was that of a *Rana esculenta* which was observed by a writer in the *Vienna Ornith. Journal* (Jan. 1887) to seize a swallow resting near the water's edge and to disappear with its victim into the deep.

[2] *Zool. Anzeiger*, 1885, p. 756.

I can bear out; and the Sardinian Tree-frog is credited by another writer with a more 'angry, passionate disposition' than the ordinary form.

The phenomenon, however, is one of greater import to the evolutionist than might appear at first sight from a mere enumeration of these traits. If individuals diverged thus indiscriminately from the character of their species, the plasticity of their mental disposition would be valueless to the species; the effects would be 'swamped' or neutralized by pammixis no less than are occasional 'sports' in size, or structure, or colour. But it is a matter of observation that every species follows definite directions of variation as much in its mental as in its bodily development. And hence we can understand how a differentiation in habits may prove often beneficial, sometimes essential, to the welfare of some members of a community (subject, as all are, to conditions perpetually changing from a physical and economical point of view), and this in its turn may entail a modification of parts sufficient to warrant the creation of a '*nova species*.'

5. *Coronella austriaca*, Laur.—The Smooth Snake is not found, I believe, in the actual Rhine valley, but is sufficiently common on

the hills, chiefly in old disused sandstone quarries.

The extreme length of 80 centimetres, often cited, seems a trifle exaggerated, as the Baden specimens, which are by far the largest I have seen, seldom exceed 65 cm. The parallel rows of spots on the back are preserved intact only by the young, whereas with increasing age they tend to coalesce into longitudinal bars, or to form a cross-striped figure, though neither of these patterns is very marked. At other times they become indistinct, the two lateral lines being first to fade, and leaving often only the dark streak through the eye as vestiges. The markings always remain most pronounced in the anterior portions, and the head generally retains to the last the three characteristic transverse stripes. The lower surfaces are reddish with the young, as with English specimens, and darken to a uniform brown with opalescent lustre. The throat remains throughout of a lighter tint. Along the edge of the ventral plates two scarcely perceptible lines of lighter colouring may sometimes be seen as with *Elaphis flavescens*.

According to Prof. Nüsslin, a bicephalous individual of this species was caught in 1881 not far from Karlsruhe, and kept alive for some time. This peculiarity does not seem to be as

rare as might be supposed. De Betta records other instances with lizards, *Vipera aspis*, *Tropidonotus natrix*, and one with *Anguis fragilis*. A two-headed adder is described in Capt. T. Brown's edition of White's *Selborne* (Edinburgh, 1834, p. 201). They were all young specimens, and lived but a short time ; in a certain case one head survived the other by about two hours. More recently an interesting account has appeared in an American journal of a double-headed tortoise, whose two heads performed independently the functions of eating, sleeping, breathing, etc., and were alleged also to possess different temperaments. Monstrosities of this kind must have excited wonder in early times and have supplied material for the foundation of fables.

This snake can sometimes be seen nodding its head, as lizards often do, with a sort of contemplative expression. It was perhaps from noticing this attitude that the observing ancients first thought of the name of *drakon*, the animal which looks or regards ;[1] or perhaps by reason

[1] The *Uromastix*, with its peculiar gait and gestures, cannot fail to have impressed the Homeric writer, if—and this is doubtful—he ever had the opportunity of making its acquaintance. It is a vegetarian, ' an eater of poisonous herbs,' as he sometimes calls his *drakon*, and essentially ' a dweller in rocky places.' But the name can hardly have applied strictly to one species ; indeed, he elsewhere employs it as synonymous with *ophis*.

of its rapid perception, as Gessner shrewdly suspected long ago, but certainly not, I venture to think, 'from its terrible eyes' (Webster and others). For why should *drakon* be a more formidable creature than *ophis*?—both terms are derived from stems signifying nothing more than to perceive or regard, and it is clear, I think, that the original Greek dragon lacks most of the monstrous attributes—notably the fiery eyes—of its mythological and ecclesiastical descendants.

And while I am digressing, I may call attention to another point, *viz.*, the signs of attachment to the young or the eggs evinced by this class of animals, instances of which have been given at various times. It appears certainly remarkable that an animal so comparatively low down in the scale should show any care for its offspring; yet we have the frequently-quoted testimony of Dr. Settari, who watched a *Coronella* feeding its young with small lizards, which it had previously swallowed. The evidence as to adders and other snakes allowing their young ones to retreat into their mouth ('swallowing their young') when alarmed by sudden danger, has now become overwhelming.[1] A correspondent informed Brehm of the maternal affection displayed by a frog for its

[1] See *Natural Science*, Oct. 1895, p. 237.

spawn, but I have observed nothing of this nature. Still, this instinct is so strong with birds that I should hesitate in denying its existence in this class. Referring to the care of eggs, there are accounts of large storages of eggs of snakes discovered in cavities of the ground, which appear to have been purposely laid there by a number of individuals with a view to ensuring their security; and we have the occasional congregating of snakes in masses during the breeding season, which is important as leading possibly to these large deposits of eggs. Thus Gené observed a gathering of more than two hundred *Coronella austriaca*, as well as four assemblies of other snakes not far distant which met at the same time and place for eight consecutive years:—'E rivedendo per varii anni di seguito quei luoghi, rividi gli stessi amori e gli stessi innamorati.'[1]

As regards the further distribution of *C. austriaca* in Germany, it occurs, apparently, in all districts sufficiently dry, but has a decided preference for the hills.[2] In the Alps it rises to a considerable altitude (1900 metres, according to Fatio), and the few I have caught there, in the eastern portions, are not so brightly

[1] Cited by Leydig, *Einheimische Schlangen*.

[2] Its distribution in North Central Germany is interesting (Wolterstorff, *Reptilien, etc., der N. West deutschen Berglande*).

coloured, even when young, as those from Baden. In the Palatinate I only obtained one young specimen near the Madenburg, with the light red inferior surfaces ; but it is considered fairly abundant throughout the country.

AMPHIBIA

Order I.—Anura

I. Fam. Ranidæ

1. *RANA esculenta*, L.—Plentiful throughout the Grand Duchy, save perhaps in some of the more barren and exposed parts of the Schwarzwald. It is most abundant in the large forest belt bordering on the Rhine, whose numerous inlets and connecting streams resound with its melodious concerts. Common enough near Karlsruhe :—in the River Alb, already mentioned ; in the small lake of the Sadtgarten ; in the fountain of the Schlossgarten, and the ponds of the Wildpark. There was formerly also a small colony in some ditches on the Exercierplatz, of which there are now no traces. I have not missed it anywhere in my excursions through the Bavarian Palatinate and Elsass.

R. esculenta is visible in favourable localities up to the middle of October, but is far behind the Common Frog in its spring appearance, being seldom in full numbers till the end of April. Single individuals can be met with by

the 20th March. Even before this they are roughly awakened by the professional frog-catchers who supply the market with this delicacy. I have several times caught specimens swimming awkwardly deprived of one limb, who doubtless owed the preservation of their lives to a vigorous and unexpected jerk of the remaining member.

Being decidedly aquatic, this species is seldom found far from its element, and if by chance this does occur (and batrachians are often found in the most incomprehensible situations) the skin becomes warty and discoloured. In turbid waters and shaded ponds filled with an accumulation of dead leaves, etc., it resumes a variable protective resemblance to the surroundings. The chromatophores are also susceptible to atmospheric changes.

Several writers have observed a tendency to blue coloration in this species. I obtained an interesting variety of this nature near the village of Forchheim, in a pond in the Rhine woods : the darker markings on the back were perfectly normal, but the green, instead of displaying the yellow fundamental hue, was of a verdigris tint, giving the frogs a most curious appearance. I forwarded some of these to Prof. Leydig, who said that the blue colour had not been affected by the journey, but that the day after (having

in the meantime assumed a 'dark blue' tint) they were transported in a sack for a short distance, and on being suddenly exposed to the full sunlight the colour rapidly changed to a 'light bluish white.' This was due to the contraction of the colour-cells; at the same time he considered that there must have been some permanent modification to produce the original blue colour.[1] I observed this singular variety for three consecutive years at the same locality. The peculiarity, though commoner to the female sex, was exhibited equally strongly by some males; and as many specimens of both sexes showed no traces of it, I should be disinclined to attribute it to external circumstances.

Other variations in colour are produced by the various shades of the fundamental tint, or by the accentuation of the three light-coloured bands on the back. As a rule, the dorsal one is the most pronounced; at other times this is nearly effaced, and the lateral row of pores becomes prominent. A male variety, not rare in the Rhine district, has the head of a nearly pure gamboge colour, as well as a small patch of the same colour on the throat. The yellow pigment on the flanks and hind legs varies considerably in degree.

[1] He has since published his observations on these frogs (*Zool. Garten*, 1892, p. 1).

As naturalists experience some difficulty in catching sufficient numbers of this frog, owing to its wariness and swift movements, I may describe a method of capture which far supersedes the unsatisfactory one usually employed. The intending angler attaches a small piece of red cloth by way of bait to his line, and holds it touching the surface of the water. He will be astonished to see the frogs wildly endeavouring to seize it, and literally struggling with each other for the possession of a mouthful. Two or three can be landed simultaneously till a sufficient quantity has been obtained. *Fiat experimentum.*

As regards the distribution of *R. ridibunda*, Pallas, in Baden, I regret being unable to include it in this list. Since the publication of the papers [1] describing this form, a number of successful observers have recorded it from various districts in Germany, chiefly Central and Northern. Unfortunately, my free time for observation was limited during the last years of my stay there, and since the spring of 1889 a lack of correspondents has prevented my hearing of its capture. From still later publications it seems doubtful whether it will ever be found here.

[1] G. A. Boulenger, *The Zoologist*, 1884, p. 220 ; *Proc. Zool. Soc.*, 1885, p. 666. (See also *Proc. Zool. Soc.*, October 1891.)

2. *Rana fusca*, Roesel.—This species has greater capacities for accommodation than the others, and is accordingly well-nigh ubiquitous in Baden. This flexibility further shows itself in the production of a large number of varieties, some of them distinct enough to have perplexed systematic naturalists, while others are only slight modifications of colouring.

Of these latter, the form so common in England and Scotland, with the yellowish back indiscriminately blotched with deep black markings, is comparatively rare in the Grand Duchy (it seems to be more common on the Lower Rhine), as also the female form, conspicuous by the bright red colour of the under surfaces, which is abundant in Alpine districts. I have never observed green coloration in any part of the body. The shape of the snout is much less constant than with the following species. The true *platyrrhinus*, Steenstr., of more substantial size and generally rougher skin, is frequent in the hilly parts of the country, while in the Rhine woods I have come across a smaller variety, which I should be disposed to class as the *acutirostris* of Fatio. I have also captured several of the barred var. *striata*, which seems to be sporadically distributed. Their resemblance to *R. arvalis*, though striking, betokens no relationship, and is another instance of that

curious parallel variability previously noticed. The throat of the male usually assumes the seasonal bluish tinge ; in some cases the back is similarly of a pale and ephemeral violet-grey.

I observed a well-marked local variety in the marshy tract where the following species occurs. It is the var. *cinerea* of Koch,[1] described as :— ' A smaller form, resembling a hybrid from the slim character of its build. The protuberance at the base of the fifth toe is normally developed, but the snout is more pointed than with the typical form, thus recalling *R. arvalis*, from which, however, it again differs decidedly by the normally webbed feet, and by the shape of the protuberance. The individuals before me measure 40 to 45 millimetres from the snout to the root of the hind legs. The colour varies between dark ash grey and brownish grey, the lighter bars along the sides are completely absent, and the entire upper surfaces (including head) are covered with large and small deep-black spots. These are not, as with the var. *typica*, continued along the hind legs in the form of stripes, or in any case only appear indistinctly as such ; the ear-mark is black, with grey spots. This form is rare, and occurs on the peaty ground of the Schwanheimer wood, and elsewhere in the plain. . . .' It is a constant form,

[1] Koch : *Formen, etc., der Ecaudaten Batrachier*, p. 140.

the young resembling the adults of both sexes in their speckled markings, and appears to be restricted to this locality.

Thanks to its hardy constitution, this batrachian may still be found at the approach of winter, when the others have already retired. I have seen it up to October 21st and November 1st, and again as early as February 9th and 2nd. But these dates are exceptional for the climate of Baden. The deposit of the spawn is regulated by the state of the weather, and seldom takes place before the first week in March.

The proportion of the sexes fluctuates according to locality, and depends perhaps on the supply of nutrition. On the whole, the males preponderate, though never to so large an extent as, for instance, with *Bufo vulgaris*.

3. *Rana arvalis*, Nilsson.—The distribution of this interesting batrachian is becoming defined with more certainty day by day, in proportion as observers convince themselves of its 'specific' distinctness from the foregoing. Without enumerating the many isolated localities, chiefly moorland and peaty districts, where *arvalis* has survived, 'a relic of the Glacial Period,' as Boettger calls it, up to the present, it is evident that these colonies become fewer and further

between as we descend from the north. I presume Transylvania marks, so far as is yet known,[1] the limit of its southern extension.

In Baden it has been cited from various points of the Rhine valley—Mannheim, Freiburg,—and I was fortunate in coming across another settlement near the village of Eggenstein (about four miles north of Karlsruhe), where this species occurs in great abundance, together with *R. esculenta* and *fusca*. The locality is a swampy depression in the otherwise well-cultivated fields between the village and the Rhine woods, more or less flooded in spring by a small stream running through the centre, while in summer the ground is usually dried up. Though I have never found *arvalis* far beyond the precincts of this spot, I have no hesitation in predicting that it will turn up duly in many of the similar tracts along the upper Rhine valley.

The coloration has been so often and admirably described, that only a few points need be mentioned with particular reference to these individuals from Eggenstein. As I have elsewhere observed,[2] the striking appearance of the light-coloured longitudinal fasciæ is more common with the females and young, while the males incline to uniformity of tints. Still, one

[1] V. Méhely, *Zool. Anzeiger*, 1890, p. 445.
[2] *Zool. Garten*, 1889, p. 221.

may also see young and females plainly-coloured, as well as distinctly-striped males; and these dimorphic types, though pronounced in their extremes, are connected by an unbroken series of gradations. The delicate blue or purple complexion of the males is subject to some variation in degree, being naturally most intense with those individuals that possess the flaccid and loose appearance due to the distension of the lymphatic vessels. As may be expected, it is most pronounced on the throat, though visible also along the sides and back. It gradually vanishes towards the beginning of May, when the other peculiarities of the nuptial costume are in retrogression. The forelegs of the male, whose functions correspond at this season to those of the hinder legs in lizards, are, like these, disproportionately thickened, and the animals appear even more swollen than *R. fusca* on account of their slighter build and more pointed snout. The yellow of the sides and hinder legs is often very brilliant even with the young, principally with the striated variety. I have detected no traces of green colour. It is worthy of note that the throat, generally pure white or of a bluish tinge, is, with some females, spotted like the lateral portions, and in the analogous male form of a uniform dark iron-grey; in both cases with a white streak down

the centre. This detail becomes more significant when we encounter an identical sexual difference with individuals of *R. fusca*.

Turning to some points of biological interest, it has struck me that the proportion of the sexes is more evenly balanced here than with most batrachians. It seems remarkable that this boreal species, which we should imagine to be less susceptible to cold than *R. fusca*, should nevertheless spawn three or four weeks later : it is as though this habit, necessitated formerly by a more rigorous climate, had been permanently inculcated into the constitution,[1] and we are led to speculate as to how far the advantages conferred by such peculiarities—cf. *R. ridibunda* and *Bombinator bombinus*—may have played a part in the gradual differentiation of specific forms. But in the majority of cases it is vain to decide the priority between change of habits and modification of structure.

R. arvalis emerges from its winter quarters at Eggenstein towards the end of March. The spawn is not deposited till the beginning or middle of the following month, and then by no means always in the water, but on comparatively dry land (hence distinguishable by its

[1] In this connexion, Mr. Boulenger has also called my attention to its hasty metamorphosis and abbreviated larval period.

small size from that of *R. fusca*) ; with the result that, if there is a spell of three or four hot days during the season, great quantities become dried up and wasted. The frogs themselves suffer much from these temporary droughts : the males especially, in their redundant condition, may be found in numbers lying dead or dying on the ground. Whenever possible, they bury themselves under tufts of grass so effectually that, before I was aware of this habit, I imagined the entire colony had emigrated to new pastures.

Their aversion to remaining long in the water was also not explained till, after capturing several injured specimens,[1] I noticed that the

[1] Mostly deficient in digits or entire limbs. The same applies to *Rana fusca* and *Bufo vulgaris*, which often exhibit curious malformations. The injured part is seldom renewed in its entirety, as with newts, but only replaced by an indurated growth covering the exposed surface, or forming, in some rarer cases, an incomplete physiological substitute for the lost member. Owing to the position of the eyes, frogs have some difficulty in seeing what is directly before them, and may sometimes be seen, when swimming rapidly, to strike with the snout against the leaves or stalks of aquatic plants. But for many injuries to batrachians it appears we must hold the mollusca responsible. One observer relates how a *R. esculenta*, in its precipitate haste, was received head foremost into the opened valves of a mussel, to the surprise, doubtless, of both parties. I observed a case of multiple digits with a *Triton marmoratus*, from near Paris, which possessed no fewer than eight toes on one front foot (otherwise normal). This may have been congenital.

small stream referred to was full of young pike. They have evidently not that confidence in the element displayed by the edible frog, for, though they jump momentarily into the water on being pursued, they immediately proceed to climb up the bank again, and seek refuge on dry land. This behaviour is singularly analogous to that of the marine *Amblyrhynchus*,[1] and seems, like it, to be induced by a 'fixed and hereditary instinct' of which we may recognize the probable origin in the imperfectly developed web of the posterior feet.

4. *Rana agilis*, Thomas.—This is another of the species whose existence in Baden has not yet been verified. I recollect, about 1884, finding a frog in the 'Wildpark' of Karlsruhe, which struck me by its prodigious leaps and the peculiar long-drawn cry which it emitted on being captured; but otherwise I took no further notice of it, though I have strong reason to suspect its occurrence there, and cannot help thinking that, in a country so favourably situated as Baden, the presence of this batrachian has as yet merely been overlooked through the

[1] Darwin, *A Naturalist's Voyage*, p. 387. See also an interesting article lately published by Dr. L. Robinson on 'Darwinism and Swimming" (*Nineteenth Century*, 1893, p. 274).

paucity or absence of sufficiently eager observers.

Respecting three doubtful specimens which I forwarded to Prof. Leydig from the Kaiserstuhl in June 1889, I quote—with his kind permission—from his letter that 'all three agreed with *R. agilis* in external characters, except that they were of stouter build than those he had seen from near Würzburg: that he would be disposed, like myself, to regard them as *R. agilis*, a view supported also by their timid nature. Owing to the advanced season, an anatomical investigation did not yield reliable results.'

It was first signalled as a German species by Dr. Boettger from the neighbourhood of Strassburg,[1] later on by Leydig[2] from near Würzburg, two points between which a great part of the Grand Duchy lies; and more recently again from one locality in Upper Bavaria and from Linz on the Rhine, and was quite lately found by Prof. Leydig, in the summer of 1893, near Rothenburg on the Tauber. It has already been recorded from Switzerland (Fatio, 1861, and Müller), Hungary (Méhely, 1890), Bohemia (Wolterstorff, 1890), various portions of Austria,

[1] *Zool. Anzeiger*, 1880. See also *Zool. Garten*, August 1885, p. 245.

[2] *Triton helveticus und R. agilis*, 1888; and *Über unsere braunen Frosche*, 1889.

besides a large part of France, so that it will presumably turn up in more localities of the intervening part of Germany.

In some works on the subject this frog is described as of a uniform white colour on the lower surfaces. This is misleading, inasmuch as a delicate network of yellow or reddish colouring between the forelegs can often be detected, and such a statement might cause hasty collectors to reject this species as a variety of *R. fusca*. The darker streak, or wavy spectacle-marking, from eye to eye, perceptible in many batrachians, reptiles, and, curiously enough, among the higher vertebrates—corresponding to the human eyebrow,—is here rarely absent. Still, this is by no means an infallible mark, as some specimens show no traces of it.[1]

I am not aware whether this species has been mentioned from Meran, in the Tyrol. I obtained there, in 1887, some specimens of the normal type.

II. Fam. Bufonidæ

Bufo calamita, Laur.—Considerably more numerous in the neighbourhood of Karlsruhe than the following species, though less com-

[1] See the correspondence in *Nature*, 1894-95, as to the tan-spots over dogs' eyes.

monly encountered during the daytime. The proportion must be about ten *calamitæ* to every four *vulgaris*, and one may frequently count up to twenty of the former before seeing a single Common Toad. The dry soil of the 'Hardwald' seems to be congenial to it; and the great abundance there helps, possibly, to explain the absence of *B. variabilis*, as it appears that these two tend to exclude each other, though they sometimes do occur conjointly.

The specimens from this district are of larger dimensions than English ones. The colouring is often fairly bright, in consequence of the red tint of the warts on the back (chiefly with the female sex); the fundamental tone varies between dark brown and light greyish green. Some individuals of the latter form might easily be mistaken in the twilight for *variabilis*, especially as the dorsal groove is here not so clearly defined; indeed, it has been suggested that there are hybrids between the two species.

These spinal lines, or stripes, are common with vertebrates—*cf.* many of the mammalia; the vertebral zones and crests in lizards, newts, and in the embryonic stages of fishes, of which latter a rudiment is retained throughout life by *Salmonidæ*;—and, being traceable in their earliest condition, possess a deeper morphological significance than the other markings.

The Natterjack is found, I believe, in every other part of the Grand Duchy, as well as in all the neighbouring countries. Its range does not extend so far south or east as that of *B. variabilis*. In the Palatinate it is reported as 'not very common' :—I captured a single specimen, in broad daylight, near Wörth on the Rhine.

Bufo vulgaris, Laur.—This is, together with *Rana fusca*, the most widely diffused batrachian of Baden, being found in every altitude and situation.

In point of size it seldom exceeds medium dimensions, and never attains the vast proportions of some Swiss or Austrian specimens, to say nothing of the Italian *Bufo palmarum*. As with other species protected by obscure colours, there are here no marked varieties. Some individuals may be found indistinctly striped (not so frequently as in England or Scotland) ; in others the excrescences on the back are of an unusually dark brown tint.

Towards the middle of April there are generally one or two pairs in the fountain of the Schlossgarten, and other ponds near Karlsruhe ; while large numbers congregate in more suitable localities, such as that mentioned in the account of *R. arvalis*. In the Black Forest I have seen them in pools of melting snow, and

it reflects credit on their constitution that they can survive a prolonged immersion into water of the temperature of ice. But most recently it has been shown that though frozen into solid blocks their ultimate recovery is not excluded, and the same has been demonstrated with newts (Erber) and fish (Knauthe).

There is some fluctuation in the numbers of this species : in some years it is comparatively rare, in others exceptionally common. The latter was the case in 1887. A similar periodical abundance has been recorded with other anurous batrachians, and may be attributed in chief part to moist weather favouring the development of the spawn at the critical moment. For whereas one or two species display considerable forethought in selecting deep water to deposit the spawn, others are more improvident in this respect,[1] and content themselves with the first

[1] It is not surprising to find this same lack of intuitive instinct with birds. As an instance which has come under my own observation :—During a spell of unusually fine weather, a number of Reed Warblers on the River Alb, near Karlsruhe, were tempted to build their nests long before the reeds were of sufficient height. The consequence was that they were all destroyed by a sudden flood, with one exception, where the bird heroically hatched its brood, though the nest was covered with thick mud. In this and most cases the catastrophe was unexpected ; in others it appears as if repeated sad experience will not provoke the discontinuance of a habit formerly perhaps justified.

piece of water that comes in their way. Hence quantities of spawn must perish annually, if a sudden drought sets in.

Occasionally, in dry weather, batrachians will undertake journeys across country in search of water. I have noticed this principally with *Bombinator bombinus*, which, through establishing itself in the most shallow and ephemeral puddles, is often obliged to change residence. An emigration of *Rana esculenta*, on a more wholesale scale, has lately been recorded, and, according to an American journal, there can be witnessed, in Dakota, an annual procession of frogs marching from the Red River (winter quarters) to the prairies in summer, and back again in autumn.

The quantities of small frogs and toads sometimes seen covering a large extent of ground have given rise to the notion that they have been dropped by the winds or rained down from the clouds,[1] whereas, in all probability, the explanation given long ago by Roesel is the correct one, *viz.*, that a sudden rainfall has caused them to quit the fissures of the ground, where, before, they had been sheltering from the dryness. In an old work of the seventeenth century, by one

[1] Haeckel (*History of Creation*) reproduces this delusion. Tennent, in his book on Ceylon, gives some curious facts of a similar nature in regard to fish.

Gasparus Schott, a Jesuit professor, the author gives his views on the subject :—'Ranas ex putre pulvere,[1] & imbre nasci notum est omnibus, ut ipsemet non semel vidi' ; and, later on, 'Cum ipsâ subinde pluviâ decidunt, in nubibus generatæ. Testes habeo oculatos, imô et oculos meos !' But in more disputed cases he evidently mistrusts his own powers of observation. Thus, after discussing at great length the vexed question as to whether the Salamander can exist in fire, and weighing the probabilities on either side, he comes to the conclusion :—'Salamandra *aliquamdiu* in igne vivit . . . *at deinde moritur.*'

It has been observed that the young of this and other nocturnal batrachians display much more agility, in various ways, than the adults. When it is found that, in addition to this, they lead a diurnal—*i.e.* more natural—life, we are led to consider whether the ancestors of the race have not been forced, presumably for the sake of protection, to assume their present concealed mode of life, and to discontinue their frog-like habits. The colour affords further confirmation of this hypothesis : there has been a simultaneous acquisition of nocturnal tints in

[1] This is akin to a superstition retailed to me by some peasants in the Auvergne, who, misled perhaps by external resemblances, imagine that the viper is formed spontaneously out of the dung of horses and cattle.

place of the original brighter ones now confined to the immature condition. Their present sedentary mode of existence has doubtless resulted in a partial muscular atrophy.

In this and many other instances a more systematic study of the ontogenetic development would yield sound evidence of the gradual differentiation of allied races, and of the means whereby this has been, and therefore still may be, effected. This is one of the most fertile and enticing provinces of biology, besides being comparatively unexplored. It will have struck every observer that the young of many species possess a greater variety of talents or capacities —a more diversified adaptability—than the adults, while those of highly specialized forms do not exhibit, to such a pronounced degree, the distinguishing features of their parents. This all throws light on the gradual acquisition, through use and disuse, of new characters, disclosing, in fact, the life history of the race.

Clearly, under changing external conditions, some amount of flexibility during growth is as essential to the species as it is to the individual. And this flexibility, differing both as to degree and direction (quality), is manifested in what may be called their respective tendencies of variation. Having attained maturity, the race, like the individual, has become more specialized

in its mental and physical constitution. But this comparative rigidity, acquired at no small expense, constitutes in itself the primary cause of incipient decay.

3. *Bufo variabilis*, Pall.—Much remains to be done before the distribution of this species in the Grand Duchy is anything like accurately determined. Judging by the accounts from the countries surrounding Baden, whose Herpetology has been more thoroughly investigated, we should expect it to be universally distributed here, as it occurs, more or less abundantly, in all of them.

I have been unable to find it in the vicinity of Karlsruhe, and should be careful in crediting statements of its existence not capable of ocular demonstration, as there is much confusion between this and the two foregoing species. It is said to occur as near the capital as Ettlingen (five miles south), and again at Heidelberg ; Leydig cites it from Weinheim in the north.

In the Palatinate *variabilis* appears to be very common near, and in, the towns of the Rhine valley. It has been recorded from every part of Germany, though it seems to be absent, or very rare, in certain districts of the West.

Batrachians are notoriously scarce on recent volcanic islands. I was therefore surprised to

come across this species in the island of Lipari, during a short stay there in the early spring of this year. The tadpoles were abundant in the three rivulets of warm mineral water which run down to the sea on the western part of the island (Prof. Giglioli has kindly written to say that he also found it there in 1878). How it reached this island, destitute of fresh springs, and has succeeded in establishing itself there, is at present a mystery.[1]

III. Fam. Pelobatidæ

Pelobates fuscus, Laur.—A comparatively rare batrachian, of nocturnal and secluded habits. I have never had the fortune to come across it during its sojourn in the water, or to discover the large larvæ in any of the ponds annually visited.

[1] At the time of my visit the weather was still cold and unsettled, and the following is all I was able to note in the way of Herpetology.

Of snakes, only *Zamenis viridiflavus* was observed on Stromboli and the islet of Basiluzzo (the young already decidedly *carbonarius*), but it undoubtedly also occurs on the larger islands of Lipari, Vulcano, Salina, and Panaria. Light-coloured ones—*Tropidonotus* ?—are reported to exist on Lipari.

[The colour-perception of the islanders is not highly developed. Anything light is *bianco*, dark *nero*.]

L. muralis tiliguerta, dark on Stromboli and Vulcano, light on Lisca Bianca ; varying according to the soil on Lipari, where a fine *rubriventris* race may be met with near Bagno Secco. I could not detect it on Lisca Nera, which, I was

The sole locality as yet cited for its occurrence in the Grand Duchy is Mannheim (Nüsslin).

The absence of this species in Switzerland accounts for the fact that it has not been observed in the southern parts of the Duchy ; but as it has been found at various points of the east, north, and west of Baden, sometimes not far from the frontier, it may turn up eventually in the northern or north-eastern districts.

IV. Fam. Hylidæ

Hyla arborea, L.—This species is not rare along the Rhine, though more frequently heard than seen. Near Karlsruhe there is only a limited, always decreasing, number of localities convenient for hibernating and depositing the

afterwards told, is swept over by heavy seas ; but the hazardous climb up of this rock was rewarded by the discovery of a nest of *Larus cachinnans*, Pall., on the summit. The most brightly coloured and largest *muralis* are to be seen on Panaria. Curious to say, this lizard is less shy in the neighbourhood of villages than on the larger islands off the beaten track, and quite unapproachable on the small islets, probably owing to the numbers of kestrels on them.

Panaria seems also to be the Eldorado of Geckos (*Platydactylus*), where in summer their numbers are said to be quite appalling. They are known as ' Salamide,' and are reputed highly poisonous. This species occurs on all the larger islands, while *Hemidactylus verruculatus* was found on Basiluzzo, Dattilo, and exists, presumably, on all the other islets.

spawn, and since a favourite piece of marshy ground, at the N.W. extremity of the 'Exercierplatz' has been drained, the numbers of this frog have suffered a perceptible decrease. In the course of four summers I have only come across some four to six specimens—a poor average in comparison with most parts of Germany. Round the shores of Lake Constance it is commoner, and also, I believe, in the S.W. portions of the Grand Duchy. It prefers the level country to the hills, and is not found at anything like the elevation at which it occurs in the Tyrol and Switzerland (3000-4000 ft.).

The action of the chromatophores is rapid with this batrachian, and experiments have proved the remarkable susceptibility of the eye to colour, enabling it to assume a protective resemblance in brief time. Thus it becomes brown on the ground, mottled on trunks of trees, etc.

In a stone quarry near Cette (S. France) I was struck by a *Hyla* whose upper surfaces, of a rich gold colour with small, darker speckles, were wonderfully adapted to the limestone block on which it was sitting. Curious to say, another one, on a rock of the same colour, was of the usual rich green tint. I can only conclude that the eyes of the latter were shut at the

time, and the adjustment of the colour therefore impossible.[1]

The skin is also sensitive to atmospheric changes, and more so to moisture and dryness than to actual heat or cold. An individual brought from the Rhine woods one afternoon to the drier air of the capital changed the same evening to a dark green ; next day the colour was grey with small light spots, and afterwards it became dark brown with yellow blotches. The epidermis had also become rough and leathery—a condition which might be taken to indicate complete prostration of the nervous system, and a temporary reversion to ancestral colours. During a rainy night it changed to its original smooth green appearance.

Such observations will have been made by every one who has kept this species in confinement, but they lose some of their value when it is remembered that the colour is equally affected by desquamation, change or lack of food, light, mental depression and ill-health of every sort, and that, besides, different individuals vary in this respect. Hence it is generally impossible to decide to what influence the change of colour is due. To obtain anything more than a superficial knowledge of the action of these different

[1] In *Natural Science* (September 1893, p. 240) is a description of the colour-change produced by sleep in the chameleon.

causes would require a long and systematic series of experiments.

V. Fam. Discoglossidæ

1. *Alytes obstetricans*, Laur.—This is most probably a French immigrant. It was first observed in the western districts of Germany (Lower and Middle Rhine, Westphalia, Eifel, Nassau, valleys of the Moselle, Saar, Nahe and Lahn), but is now being discovered in various Central and Northern parts of the country (Harz Mountains, Brunswick, Hanover and elsewhere).

Its distribution in Baden is not determined as yet. Bonaparte notes its occurrence at Mannheim, Nüsslin at Freiburg. If it reached this point from the northern cantons of Switzerland, as is quite likely considering its abundance there, there is reason to expect that it will be found in other parts of the Grand Duchy in course of time. For it is natural that all rarer species should first be signalled from the neighbourhood of university or other large towns—such as Freiburg, Bonn, Berlin, Strassburg—on account of the larger number of collectors and students living there.

I have heard the flute-like notes of *Alytes* in the vineyards near Oberschaffhausen (Kaiser-

stuhl), but not near Karlsruhe. At the Laacher See, in the Eifel, I searched in vain for it under blocks of lava, etc., but the season (first week of April) may have been too early for this locality.

2. *Bombinator bombinus*, L. (*pachypus*, Bonap.). —Universally distributed in Baden and the Bavarian Palatinate, and common enough near Karlsruhe (Wildpark, Durlacherwald, etc.), as well as in all the ditches—muddy by preference—on the level ground and hills. At Eggenstein it occurs in the same locality with *Bufo vulgaris*, *Rana arvalis*, *fusca*, and *esculenta*.

I mention this because I have twice had an opportunity of noticing that where the area is more restricted and there are several unconnected ponds, the last-named frog and *B. bombinus* keep apart, as though disliking each other's company. They certainly occur promiscuously where there is no choice ; but judging also by other facts, this enmity may be due to the acrid secretion in the skin of one species being distasteful to the other.

This fluid, with *B. bombinus*, is developed chiefly on the lower surfaces, and is connected with the bright yellow warning colour which the animal takes care to display by turning over

on its back. This curious habit seems to have been accidentally acquired, perhaps from hurrying and stumbling when pursued, and, pending its general adoption, that part of the body, to judge by the still greyish colour of the young, has been rendered more conspicuous. Conversely, the upper parts are tending to lose their original darker markings ; for, when it thinks itself unseen, it will sit motionless, only showing the back, the colour of which is highly protective.

Many of these attitudes, originally merely the result of fright, have been gradually improved upon, and pass imperceptibly into those of feigning death. Some batrachians, on being alarmed, suddenly draw in all their legs, presumably to present the appearance of an inanimate object ; others heighten the effect by assuming quaint contortions, like many newts and the species in question, and can be observed to bend their spine inwards, covering their eyes with their feet.[1]

[1] ' Comme pour ne point voir le danger,' says Fatio. Or perhaps to conceal their brilliancy ? It would be impossible to overrate the importance of such an item, considering the enemies with which many protective species have to deal. The woodcock, for instance, is often betrayed solely by its eyes. Darwin's Patagonian lizard, ' when frightened, flattened its body, closed its eyes, and then from its mottled tints was hardly distinguishable from the surrounding sand.'

From this class of devices the transition to those directly calculated to inspire terror is again so gradual that it is often difficult (for us) to decide what impression some of them are intended to convey. Examples of this method are comparatively rare among the Amphibia. I note only *Rana arvalis*, which, more than the other frogs, is fond of inflating itself with air, no doubt in the hope of imposing by its size. Judging by a large number of individuals, I gather that the females are more addicted to this habit. Why? Perhaps because, being less agile than the males, they have learned to place reliance on this device for the purpose of self-protection. The voice of this sex is also more powerful than that of the other.

It is doubtful whether *B. igneus*, Laur., will ever be found in Baden. ' It is certainly absent in the whole river-system of the Rhine above Bonn, and its existence on the lower Rhine is still very doubtful,' whereas *B. bombinus*, ' this typical mountain form, appears solely as perpetual resident of the plain in the upper valley of the Rhine (*i.e.* Baden), and seems here to take the place of *B. igneus* ' (Wolterstorff, 1890).

Order II.—Urodela

I. Fam. Tritonidæ

1. *Triton cristatus*, Laur. (*cuclocephalus*, Fatio). —'Generally distributed, but not common,' is said of this newt in most local faunas of Germany. The same applies to Baden. I have been informed of its occurrence in most parts of the country, except on the higher ground of the Black Forest, but never in great numbers. At Karlsruhe a pair or two may usually be seen in a pond near the entrance of the Wildpark, where I have obtained pretty specimens in the *carnifex* stage: I have caught it in other ponds there, in the Durlacherwald and various places. In the Palatinate it is considered 'not very abundant.'

The conditions of the country seem suitable to *cristatus*, and it attains full size (16 cm.) and bright colours. I have observed a slight tendency towards greenish tints in the spring costume of the male, but otherwise the coloration has always been normal. The crest varies individually in height, and by far the finest I have seen in this respect were caught in the so-called 'Badloch,' on the Kaiserstuhl.[1]

[1] I cannot sufficiently recommend this locality to the notice of the many English naturalists who pass through Freiburg. For mineralogists it is probably unique, and I may refer them

These crests are sometimes jagged and torn, perhaps from passing through the branches of brambles, etc. (which often obstruct ponds), where they must be rather a hindrance.

At the same time I am told they serve as a protection against the attacks of pike and other fish, on account of the ' terrifying ' appearance of the serrated edge. I give this statement for what it may be worth, but should mention, in this connexion, what several anglers have assured me—*viz.*, that the male minnow also enjoys a temporary immunity, so long as its bright colours last, from its usual enemies, who are suspicious at this season of its resemblance to the stickle-back, with its really formidable defences.

It seems clear at all events, if these cases should never be confirmed, that many other secondary sexual characters would not be so highly developed, unless serving at the same time for practical purposes. This applies to various forms of coloration, such as the designs on the ocelli of butterflies (Wallace, *Tropical Nature*, first edition, p. 202), to structures like the horns of the stag, the rattle of the rattlesnake, to certain

to Prof. Knop, of Karlsruhe, who has lately published a book on this district after visiting it annually for the past twenty-six years, and is most obliging in giving information on all points of note. Owing to its peculiar soil and situation, the plant life and insect life are also highly interesting.

secreting glands in various classes of animals, as well as to the voice. Even among the generally mute reptiles the functions of the vocal organ are sometimes usefully differentiated. Thus J. von Fischer, writing of that of the Gecko, distinguishes between the (original?) call-note heard during the breeding season and the other tones employed under the influence of fright, pain or anger :—the South European *Tropidosaura* is likewise gifted with a powerful voice, which would seem hardly necessary to an animal of its habits, did we not know, on the authority of the same writer, that its arch-enemy, *Coronella girondica*, 'lets it drop on the first scream.'

No wonder that, until observations such as this are forthcoming, the utility of certain characters is frequently called into question.

2. *Triton palmatus*, Schneider. — Doubtless more widely diffused than is at present known. The localities already given for Baden are Heidelberg, Herrenwies, Mummelsee, and Freiburg ; to which I can add Rippoldsau and Allerheiligen, both in the Northern Schwarzwald and well known to tourists. At the latter place I obtained great numbers in a small rill near the Convent, together, in about equal proportions, with *T. alpestris*. I also captured *palmatus*

in the Glotterthal near Freiburg, in the same pond with *T. tæniatus* and *cristatus*, but nowhere in the Rhine valley, nor yet at Grünwettersbach on the hills near Karlsruhe, where it is said to be found.

Coloration and size of Baden specimens agree with those from other parts of the Continent. The length never exceeds 10 cm., generally ranging between 6 and 8 cm. The females (from the same localities) vary in ground-colour from dark brown to greyish green ; in a single case the under surfaces were pure white, instead of yellow.

During the summer months this sex bears such a close resemblance, in its obscure tint and emaciated condition, to others of *T. tæniatus*, that it is well to remember that the absence of pigment on the throats affords, as Mr. Boulenger has pointed out, the easiest criterion of its identity.

Having occasion to keep large numbers of this species in confinement, I was able to corroborate what others have observed with respect to its voice. This consists in a short, abrupt tone, but whether it is produced under the water or on coming to the surface to breathe I could not say.

The distribution of these species in Germany has been dealt with in a special inquiry by Prof.

Leydig, to which I may refer those who are interested in the subject (' *Triton helveticus und Rana agilis*,' Würzburg, 1888), and more recently by Mr. Wolterstorff.

3. *Triton tæniatus*, Schneider.—This newt is about as common as the next species; for though not occurring, as it does, on the highest points of the Schwarzwald, it is all the more abundant near the Rhine. No doubt its numbers here are kept down, to some extent, by a variety of enemies, preying chiefly upon the larvæ. On the Kaiserstuhl, it is found near the ' Badloch,' inhabiting the tepid water which issues from the small excavation there.

In the Palatinate it is as generally distributed as in Baden.

With respect to coloration, I have only noted one male, from Karlsruhe, as peculiar in possessing two perfectly symmetrical rows of spots on the lower surfaces, instead of the irregular black blotches. The five converging stripes on the head show an interesting tendency to unite, recede towards the parotides and form an almost vertical pattern. This manner of development of patterns has many analogies in the animal kingdom, to which I hope to recur elsewhere. The young, generally to be found under stones and suchlike, display a great

variety of fundamental tints, from light brick-red to the darkest brown.

The proportion of the sexes seems less equal than with *T. alpestris*; at least, one often sees several males of this newt courting one female, whereas *alpestris* is, as a rule, to be found in pairs

4. *Triton alpestris*, Laur.—It will have struck any one who has examined the fauna of Karlsruhe during the last few years that this newt has become more common, while *tæniatus* has proportionately decreased.

It is interesting to observe this tendency towards mutual exclusion, but we are generally at a loss to conjecture in what the advantages may consist which contribute to this effect; for to impute the ultimate victory of one of the contending parties to 'greater flexibility of constitution, etc.,' is little more than a restatement of the fact. The contest waxes hottest between those whom a physical similarity—relationship, or identity of habits—involves in a natural warfare.[1] Whatever may be the cause of the displacement here, it is evident that *alpestris*

[1] To the large list of analogous observations among birds I may be permitted to add two more examples. Within recent years *Phylloscopus trochilus*, at one time very abundant near Karlsruhe, has been completely replaced by *P. sibilatrix*, so that these two now occur in exactly inverse proportions.

possesses some capabilities enabling it successfully to invade a region to which it is not entitled by name.

I have missed this newt in the immediate vicinity of the Rhine, but, with this exception, have found it at every level up to the summit of the Feldberg. In the Alps it occurs at a still higher elevation, as I caught one in some water near the top of the Splügen Pass (Fatio gives 'about 2500 metres,' Gredler 6500 (German) feet as the highest point of its occurrence). It is found throughout Germany, though sometimes not abundantly.

I have observed nothing remarkable about the colour of Baden specimens, except that the throat in some, perhaps younger, males is as much spotted as with the females; but there are one or two other points I should like to notice.

In the first place, one may in summer come across specimens of *alpestris* whose eyes are devoured by the larvæ of some fly, probably *Lucilia sylvarum*, Meig. (*Zool. Anzeiger*, 1891, p. 455, and 30th May 1892). It would be interesting to know whether the other newts are

Similarly, *Parus cæruleus* is increasing rapidly, whereas *P. cristatus* becomes rarer every day. In explaining the last case, no doubt the more enterprising disposition of *cæruleus*—witness the social success of the domestic sparrow—must be taken into account.

free from this parasite, and why, if this is due to their more aquatic life, some terrestrial batrachians, such as *Rana fusca*, appear equally exempt from its attacks.

Again, I once caught a female of this species, near Karlsruhe, with as distinct a crest as the male. This is a pretty frequent phenomenon amongst some mammalia and birds, but I only recollect one other instance with the *Urodela* (Leydig, *Molche d. Würt. Fauna*, p. 39), though it occurs again commonly enough among lower animals.

Further, I may call attention to the fact that most European species of this order, when entering upon their land life, assume either much brighter or much duller colours. I have certainly found *T. alpestris*, in the Alps, as brilliantly coloured in August as in spring, and it was this circumstance which suggested to me the possibility that the brighter tints of others at this late season may have been developed as warning colours, while the obscurer shades of the majority are protective. Without wishing to draw a general inference from a few cases, I may note, as bearing on the point, that the Marmorated Newt, on leaving the water, becomes ' much more brilliantly coloured ' than before, and that a similar acquisition of brighter tints takes place with the young Salamander

(*cf.* also *Chioglossa lusitanica*) on definitely quitting this element. The vivid hues of *Bufo variabilis* are not, as might be supposed, characteristic of the breeding season, but are only acquired later—'*variabilis*'—on the land ; and it may be worth mentioning that the exceptionally acrid fluid in the skin of this species is, as with *Salamandra maculosa*, confined, conjointly with the warning tints, to the upper surfaces, as opposed to *Bombinator pachypus*, where both colour and secretion are more strongly developed on the belly. At all events, I venture to think that, in view of the increased interest now taken in questions of colour, this point is deserving of investigation.

II. Fam. Salamandridæ

1. *Salamandra maculosa*, Laur. — Plentiful throughout the whole length of the Grand Duchy, except in the woods of the Rhine valley, where, to the best of my knowledge, it never occurs. I have obtained it in numbers from the wooded hills near Karlsruhe (Rittnerwald, Ettlingen), and throughout the Northern Black Forest. It seems here more abundant—especially in the Murg valley—than in the southern and higher districts of the Feldberg. Often, as with *S. atra*, one finds large companies collected

together at one point, and may then walk a long way before seeing another specimen. This comes, I fancy, from their all having crawled out of the same retreat prior to separating in different directions, and not from any gregarious or patriarchal disposition. I have not met with this species on the Kaiserstuhl, where several peasants assured me of its existence. This would be an interesting point to determine, as implying an emigration from the Schwarzwald across a stretch of level country ; unless, indeed, it had been purposely liberated there. It is also universally cited for the Palatinate, but must be considerably rarer than in Baden, as I never saw it in any part of the country, in spite of the most propitious weather (five days of uninterrupted rain). It occurs throughout Germany in suitable localities, *i.e.*, damp and wooded hills, avoiding the cultivated plain and vineyards.

Baden specimens frequently attain the unusual length of 20 cm. The yellow of the spots varies in intensity between light lemon and dark orange. It has been observed that the exclusion of light renders these markings paler and less clearly defined, but there are individual variations irrespective of this cause. The fundamental tint is also of different shades from dark brown to bluish-black. The markings seldom

develop into the cross-barred pattern, commoner with southern forms, but tend rather to grow longitudinally confluent along the back, a type of coloration which becomes more frequent as we proceed northward, to judge, at least, by the descriptions in Wolterstorff's book previously mentioned. Here in Baden the continuity of the lines is generally interrupted on the tail.

I have never come across the Salamander after the beginning of October, and only once succeeded in unearthing three individuals, in close proximity to each other, during the winter. The coloration was as bright as in summer, and they were not long in regaining their habitual liveliness. My earliest date for their spring appearance is the first week of April.

It is a singular fact that the young of a certain size—from 5 to 10 cm.—appear to be much rarer than the adults, and I do not know that any one has ventured an explanation of this. Are their habits more nocturnal?

The larvæ are extremely abundant in all the shaded streams and springs of the hills. While they are being deposited, the females are sometimes carried away by the current, a misfortune which may entail disastrous consequences, unless they are drifted ashore again by a kindly

wave. Similar accidents take place during their summer rambles, if they happen to step into a half-empty cattle-trough or other hopeless situations. I have discovered *S. atra* in the same predicament, feebly struggling to keep its head above water.

Some of these larvæ are very light-coloured—in fact, almost white and transparent. The eye, however, is always furnished with colouring matter. This paleness is probably the result of deficient nourishment, as has been experimentally shown by Fatio (*Faune des Vertèbres de la Suisse*, p. 579) in the instance of *Triton palmatus*. But these larvæ of *Salamandra* are no doubt constitutionally weaker, and must stand a poor chance of surviving and regaining their strength, in view of the severe struggle for existence among them.

Triton alpestris has been observed 'more or less albinotic' in Alpine lakes, but, from my experience, the light appearance of some of these newts *in the water* is due to the semi-detached and translucent epidermis.

Among reptiles and batrachians in general the tendency to this condition is comparatively rare: cases have been recorded by various writers with *Coronella lævis* (2), *Elaphis flavescens*, *Tropidonotus natrix* (2), *T. tessellatus*, *Alytes obstetricans*, *Bombinator bombinatus*, *Hyla arborea*,

Rana fusca, *Salamandrina perspicillata*, *Triton cristatus* [?], and doubtless several more.[1]

White coloration is not, *eo ipso*, a pathological condition, unless accompanied by lack of pigment in the choroid lining and iris. This constitutes total albinism, and entails debility of various sorts. In every case its injurious effects are relative, dependent both on the climatic and social circumstances in which the affected individual is situated.

Albinism, in so far as it denotes a diminution, however slight, local or universal, of the *normal* pigment, is due to a variety of causes. It is incidental to both sexes, and all ages. Besides varying in degree, it differs also as to nature, being either temporary or permanent, congenital or acquired, sometimes peculiar to one locality, often hereditary, etc.,—distinctions whereby it has become entitled to various specific names. Being founded on a physiological diagnosis, these will apply equally to all species liable to the many forms of deficient pigment; but I venture to think that until some definition of the broader term 'albinism' is adopted, many of the discussions on the

[1] In a paper by Dalla Torre on the 'Drachensage im Alpengebiet,' there is a note to the effect that one of these fabulous monsters, on being killed, 'was found to have ten young ones in its body, one of which was quite white.'

subject will remain, so to speak, at cross purposes.

The majority of the cases of reptiles above cited were *albinismus universalis*. A large proportion, nevertheless, belongs to that intermediate type, a few instances of which are on record with our own species—fair-complexioned negroes—under the name of 'semi-albinism.' I should retain this term in preference to 'xanthous varieties,' as several writers have employed the latter to designate a not *abnormal* condition (blonde type of European). Still, it is rather vague, and not as descriptive as the corresponding 'phæism.' *Albinismus partialis* (pied varieties), so frequent among warm-blooded animals, has not, to my knowledge, been observed with reptiles or batrachians.

I am unaware of the existence of any data showing the proportion of the sexes among albino animals, but have no hesitation in predicting that the females will be found in the minority, seeing that this sex, in variability of every description, is less inclined to depart from the mean.[1]

[1] Such, at least, is the result of statistics, so far as they have been published with respect to man, and my own observations agree in giving a considerable preponderance to males. This can be well seen among the manufacturing population of Lancashire, where the phenomenon of albinism is not rare, especially among children. The mortality here during

2. *Salamandra atra*, Laur.—I would not refer to this strictly Alpine species but for misleading accounts of its existence in the Schwarzwald and elsewhere, such as any one interested in the fauna of the country is sure to hear. These may be safely attributed to errors of identification with *Triton alpestris* in its terrestrial costume.

The nearest point of its occurrence on this side of the Rhine is the neighbourhood of Isny, in the extreme S.E. of Württemberg, and within the Bavarian Alpine system (Leydig).

A number of specimens were liberated, in 1876 (cf. *Zeitschrift für Wiss. Zoologie*), near Wildbad and Freiburg, in the Black Forest, but nothing more has been heard of them.

growth is doubtless increased by overcrowding and underliving, which, besides favouring anæmia and other diseases, are not calculated to alleviate the ordinary evils associated with albinism : defective sight, photophobia, nystagmus, etc.

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